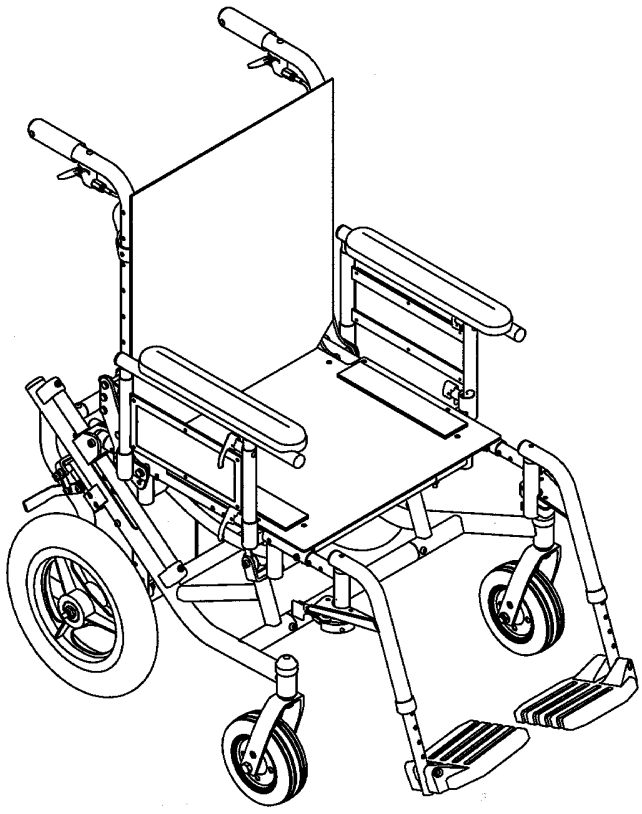
Service Manual

Solara™ and Solara™ Limited



DEALER: Keep this manual. The procedures in this manual **MUST** be performed by a qualified technician.

For more information regarding Invacare products, parts, and services, please visit www.invacare.com

INVACARE®

Yes, you can.™

⚠ WARNING

THE PROCEDURES IN THIS MANUAL MUST BE PERFORMED BY A QUALIFIED TECHNICIAN.

DO NOT SERVICE OR OPERATE THIS EQUIPMENT WITHOUT FIRST READING AND UNDERSTANDING THIS MANUAL AND THE OWNER'S MANUAL, PART NUMBER 1080556. IF YOU ARE UNABLE TO UNDERSTAND THE WARNINGS, CAUTIONS, AND INSTRUCTIONS, CONTACT A HEALTHCARE PROFESSIONAL, DEALER OR A QUALIFIED TECHNICIAN BEFORE ATTEMPTING TO USE THIS EQUIPMENT - OTHERWISE INJURY OR DAMAGE MAY RESULT.

NOTE: Updated versions of this manual are available on www.invacare.com.

SPECIAL NOTES

WARNING/CAUTION notices as used in this manual apply to hazards or unsafe practices which could result in personal injury and/or property damage.

NOTICE

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

WHEELCHAIR USER

As a manufacturer of wheelchairs, Invacare endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection.

TIE-DOWN RESTRAINTS AND SEAT RESTRAINTS

Invacare recommends that wheelchair users NOT be transported in vehicles of any kind while in wheelchairs. As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type.

It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation systems.

SEAT POSITIONING STRAP

ALWAYS wear your seat positioning strap.

The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding hight stress loads such as auto or aircraft safety belts. If signs of wear appear, belt MUST be replaced immediately.

As regards restraints - seat/chest positioning straps - it is the obligation of the DME dealer, therapists and other healthcare professionals to determine if a seat/chest positioning strap is required to ensure the safe operation of this equipment by the user. SERIOUS INJURY CAN OCCUR IN THE EVENT OF A FALL FROM A WHEELCHAIR.

⚠ WARNING

Invacare prodcuts are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.

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REGISTER YOUR PRODUCT

The benefits of registering:

1. Safeguard your investment.
2. Ensure long term maintenance and servicing of your purchase.
3. Receive updates with product information, maintenance tips, and industry news.
4. Invacare can contact you or your provider, if servicing is needed on your product.
5. It will enable Invacare to improve product designs based on your input and needs.

Register ONLINE at www.invacare.com
- or -
Complete and mail the form on the next page

Any registration information you submit will be used by Invacare Corporation only, and protected as required by applicable laws and regulations.

PRODUCT REGISTRATION FORM

Register ONLINE at www.invacare.com - or -
Complete and mail this form

Name _____

Address _____

City _____ **State/Province** _____

Zip/Postal Code _____

Email _____ **Phone No.** _____ Fold here

Invacare Model No. _____ **Serial No.** _____

Purchased From _____ **Date of Purchase:** _____

1. Method of purchase: (check all that apply)
❑ Medicare ❑ Insurance ❑ Medicaid ❑ Other _____

2. This product was purchased for use by: (check one)
❑ Self ❑ Parent ❑ Spouse ❑ Other

3. Product was purchased for use at:
❑ Home ❑ Facility ❑ Other

4. I purchased an Invacare product because:
❑ Price ❑ Features (list features) _____

5. Who referred you to Invacare products? (check all that apply)
❑ Doctor ❑ Therapist ❑ Friend ❑ Relative ❑ Dealer/Provider ❑ Other_____
❑ Advertisement (circle one): TV, Radio, Magazine, Newspaper ❑ No Referral_____

6. What additional features, if any, would you like to see on this product?

_____ Fold here

7. Would you like information sent to you about Invacare products that may be available for a particular medical condition? ❑ Yes ❑ No
If yes, please list any condition(s) here and we will send you information by email and/or mail about any available Invacare products that may help treat, care for or manage such condition(s):

_____

8. Would you like to receive updated information via email or regular mail about the Invacare home medical products sold by Invacare's dealers? ❑ Yes ❑ No

9. What would you like to see on the Invacare website?

_____

10. Would you like to be part of future online surveys for Invacare products? ❑ Yes ❑ No

11. User's Year of birth: _____

If at any time you wish not to receive future mailings from us, please contact us at Invacare Corporation, CRM Department, 39400 Taylor Parkway, Elyria, OH 44035, or fax to 877-619-7996 and we will remove you from our mailing list.

To find more information about our products, visit www.invacare.com.

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Invacare Product Registration Form

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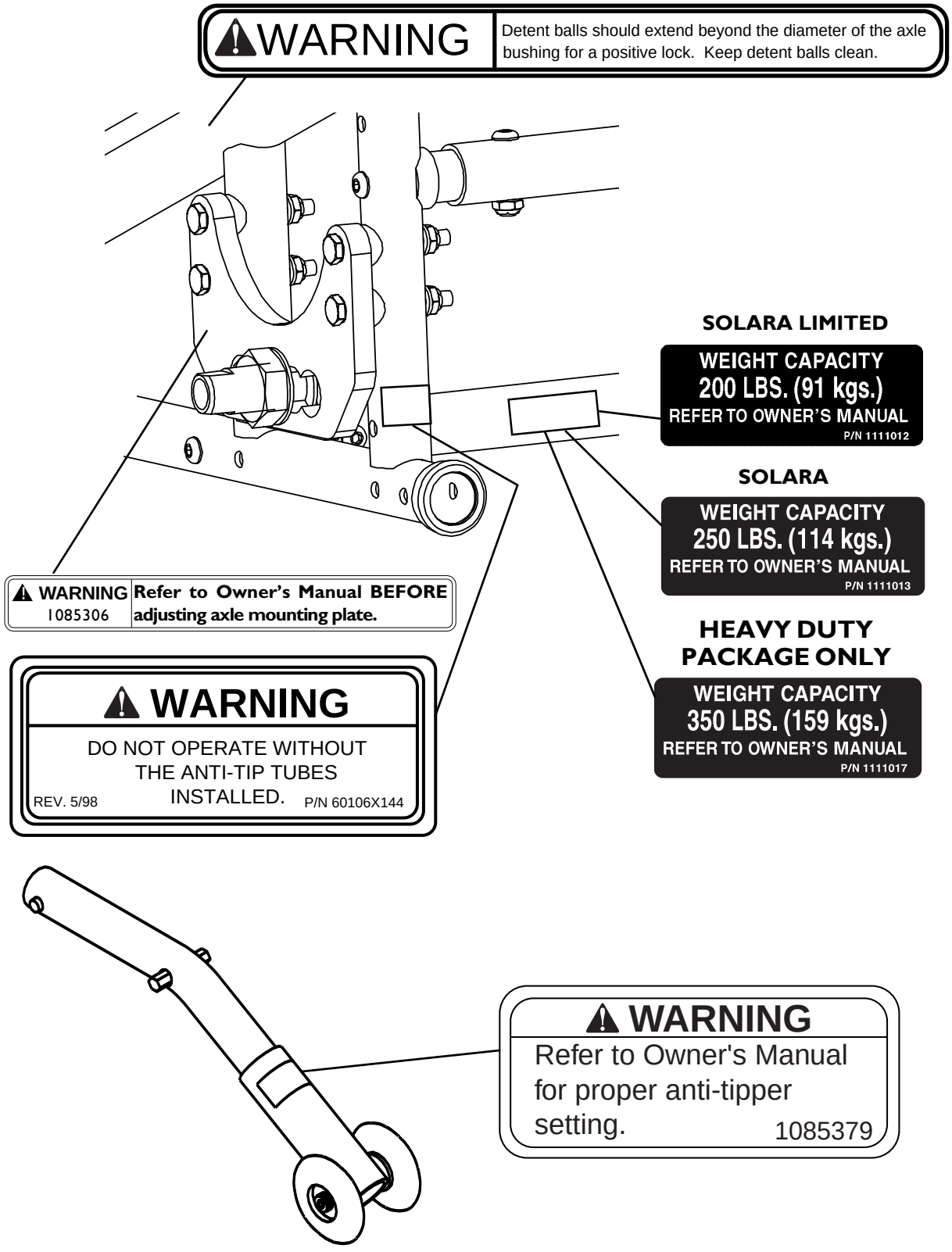
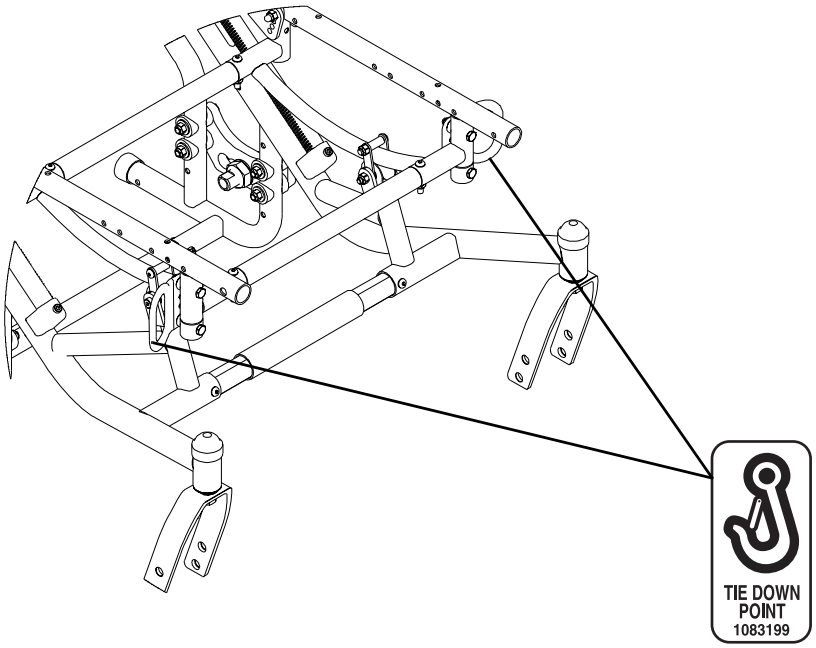
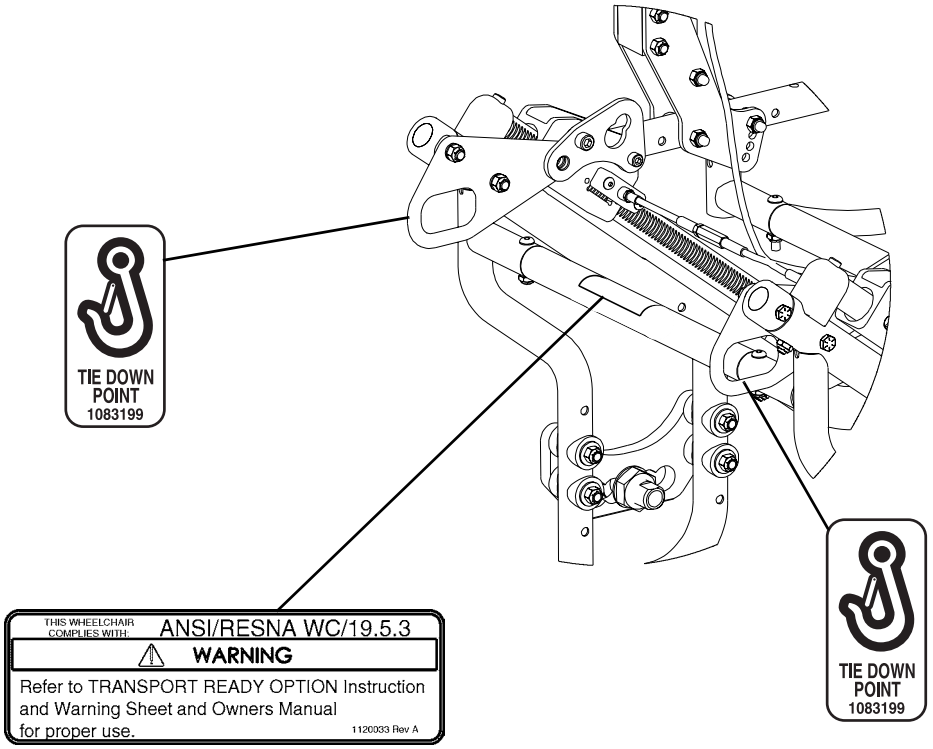
LABEL LOCATIONS



TRANSPORT READY OPTION ONLY





TYPICAL PRODUCT PARAMETERS - SOLARA AND SOLARA LIMITED

	SOLARA AND SOLARA LIMITED
OVERALL WIDTH:	Seat Width + 8¼ inches (Example: 16 inch Wide Wheelchair = 24¼ inches Overall Width)
OVERALL DEPTH:	Without Front Riggings Short Frame - 29½ inches Medium Frame - 32½ inches Long Frame - 34½ inches
OVERALL HEIGHT 20 INCH BACK CANES: 24 INCH BACK CANES:	 * Seat-to-Floor Height + 21 inches * Seat-to-floor Height + 25 inches
SHIPPING WEIGHT:	57 lbs.
ANTI-TIPPERS	Standard
FOOTREST:	Swing-Away Footrest (Standard) Articulating Swing-Away Footrest (Optional)
ARMRESTS:	Dual Point - Adjustable Height Dual Point Fixed Height - Desk Length Dual Point Fixed Height - Full Length Locking Cantilever Arms - Desk or Full Length Non-Locking Cantilever Arms Adjustable Height - T-Arms
SEAT:	Optional
SEAT PAN COLOR:	Black
BACK:	Optional
BACK ANGLE ADJUSTMENT:	90° to 120°
REAR AXLE:	Quick-Release Fixed
REAR WHEELS:	12 inches Pneumatic (Standard); 12 inch Pneumatic with flat free (Optional); 20 and 22 inch Pneumatic, Urethane or Pneumatic with flat free (Optional)
HANDRIMS:	Aluminum Handrims
CASTER SIZE:	6x2 inch with Precision Sealed Bearings (Standard): 8-inch with Precision Sealed Bearings (Optional); 6x1inch with Precision Sealed Bearings (Optional).
SEAT WIDTH:	12 - 22 inches
SEAT DEPTH SHORT FRAME MEDIUM FRAME LONG FRAME	 15-17 inches 18-20 inches 20-22 inches
BACK HEIGHT:	20-24 inches
WHEEL LOCKS:	Push-to-Lock (Standard)

**NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.*

	SOLARA AND SOLARA LIMITED
TILT-IN-SPACE:	Dual Cable Trigger Mechanism (Standard) - 45° of Tilt
RECLINER BACK:	Dual Cable Trigger Mechanism (Optional) 0-180° of Tilt
FRAME:	Steel
WEIGHT LIMITATION SOLARA LIMITED: SOLARA:	 200 lbs (91kg) 250 lbs (114kg)

**NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.*

SECTION 1— GENERAL GUIDELINES

⚠ WARNING

SECTION 1 - GENERAL GUIDELINES contains important information for the safe operation and use of this product. DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as Owner's Manuals, Service Manuals or Instruction Sheets supplied with this product or optional equipment. If you are unable to understand the Warnings, Cautions or Instructions, contact a healthcare professional, dealer or technical personnel before attempting to use this equipment - otherwise, injury or damage may occur.

INFORMATION FOR HEALTHCARE PROFESSIONALS/ASSISTANTS

The Solara wheelchair MUST be operated by a healthcare professional or assistant when in any tilt position.

ANTERIOR (FORWARD) TILT

DO NOT operate the wheelchair when the seat frame is in the anterior (forward) tilt position (frame stops in the lower position and approximately 10° forward tilt). Serious bodily injury may occur to the patient and/or the assistant(s).

Anterior (forward) tilt is a feature of this wheelchair designed for the use of a healthcare professional or assistant only. Engagement of the anterior (forward) tilt must NEVER be performed by the wheelchair user. When anterior (forward) tilt is needed, it must ALWAYS be engaged by a healthcare professional or assistant. Make sure the occupant of the wheelchair is properly positioned and always engage both wheel locks.

STABILITY- ALL MODELS

The back height, seat depth, back angle, seating system, tilt angle, seat height, size/position of the rear wheels, size/position of the front casters, as well as the user condition directly relate to the stability of the wheelchair. Any change to one (1) or any combination of the eleven (11) may cause the wheelchair to decrease in stability. These adjustments MUST be performed by a qualified technician.

NOTE: When changes to the left hand column occur, follow across the chart and refer to the X procedure to maintain the proper stability, safety and handling of the wheelchair.	BACK HEIGHT	SEAT DEPTH	BACK ANGLE	SEATING SYSTEM	TILT ANGLE	CASTER SIZE	CASTER POSITION	WHEEL SIZE	WHEEL POSITION	USER CONIDITION	WHEEL LOCKS	ANTI-TIPPERS	LOCKING COLLAR
BACK HEIGHT	•	X	X	X	X	X	X	X	X	N/A	N/A	N/A	N/A
SEAT DEPTH	X	•	X	X	N/A	X	X	X	X	N/A	N/A	N/A	X
BACK ANGLE	X	X	•	X	X	X	X	X	X	N/A	N/A	N/A	X
SEATING SYSTEM	X	X	X	•	X	X	X	X	X	X	N/A	N/A	X
TILT ANGLE	N/A	N/A	X	N/A	•	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X
CASTER SIZE	X	N/A	X	N/A	N/A	•	X	X	X	N/A	X	X	X
CASTER POSITION	X	N/A	X	N/A	N/A	X	•	X	X	N/A	X	X	X
WHEEL SIZE	X	N/A	X	N/A	N/A	X	X	•	X	N/A	X	X	X
WHEEL POSITION	X	N/A	X	N/A	N/A	X	X	X	•	N/A	X	X	X
USER CONDITION	X	X	X	X	X	X	X	X	X	•	N/A	N/A	N/A
SEAT HEIGHT	X	N/A	X	X	X	X	X	X	X	N/A	X	X	X

ALWAYS make sure that the wheelchair is stable before using the tilt-in-space.

Axle mounting plates have specific positions depending on the size of the rear wheels. Using axle mounting plate positions other than those described in this manual will cause an unsafe anti-tipper height as well as a possible forward seat dump. NEVER use an axle mounting plate position other than those described in this manual-otherwise injury or damage may result.

STABILITY - ALL MODELS EXCEPT RECLINERS

To maintain maximum stability, position the rear wheels in the most rearward position in the axle mounting plate. Moving the rear wheels to any of the other mounting positions causes the wheelchair to decrease in stability.

If moving the rear wheels to any forward position, ensure the wheelchair is stable before using.

ALWAYS ensure stability before using maximum amount of tilt-in-space or moving the rear wheels forward. Test wheelchair before it is occupied by the end user to ensure safety.

STABILITY - RECLINER MODELS ONLY

Before using any recline position of this wheelchair, make sure the rear wheels are in the most rearward position in the axle mounting plate to maintain the stability of the wheelchair. DO NOT change the handling/maneuverability of the wheelchair by moving the rear wheels to any of the forward positions. Moving the rear wheels to any of the forward positions will change the center of gravity of the wheelchair, making the wheelchair less stable.

ALWAYS make sure that the wheelchair is stable in the full reclined (back at 180°) position and the full upright (back at 90°) position before using the recliner option.

Before using the recliner option, make sure the anti-tipper wheel assemblies are in the lowest adjustment hole (adjustment hole closest to the ground/floor).

ALWAYS engage both wheel locks while reclining or inclining (reverse recline) the wheelchair.

Both gas cylinders MUST be operational and adjusted properly before using the recliner. DO NOT operate the recliner option if only one (1) of the gas cylinders is operational or adjusted properly.

Make sure the occupant of the wheelchair is properly positioned in the wheelchair before reclining or inclining (reverse recline) to maintain maximum stability and safety.

When returning the occupant of the wheelchair to the full upright position, more body strength will be required for approximately the last twenty (20) degrees of incline (reverse recline). Make sure to use proper body mechanics (use your legs) or seek assistance to avoid injury.

ALWAYS return the back to the upright position before lifting the wheelchair.

OPERATING INFORMATION

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame tubing.

Unless otherwise noted, all service and adjustments should be performed while the wheelchair is unoccupied.

DO NOT use the wheelchair unless it has the proper tire pressure (p.s.i.). DO NOT overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm. The recommended tire pressure is listed on the side wall of the tire.

ALWAYS check foam grips for looseness before using the wheelchair. If loose, contact a qualified technician for instructions.

The necessary back angle (90°, 100°, 110° or 120°) MUST be selected before repositioning the rear wheels forward.

DO NOT operate the tilt-in-space if the trigger release levers and cables are not properly adjusted to ensure that the tilt-in-space is locked in place when engaged.

DO NOT use any parts, accessories, or adapters other than those authorized by Invacare.

DO NOT attempt to lift a wheelchair by lifting on any removable (detachable) parts. Lifting by means of any removable (detachable) parts of a wheelchair may result in injury to the user or damage to the wheelchair.

DO NOT use the spreader bar for lifting or transporting the wheelchair. DO NOT use the spreader bar as a weight bearing support.

Invacare recommends that anti-tippers are attached at all times.

The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, belt must be replaced immediately.

WEIGHT LIMITATION

The Invacare Solara Limited wheelchair has a weight limitation of 200 lbs (91kg). The Invacare Solara wheelchair has a weight limitation of 250 lbs (114kg).

SECTION 2—SAFETY INSPECTION TROUBLESHOOTING

SAFETY INSPECTION CHECKLISTS

Initial adjustments should be made to suit the end user's personal body structure needs and preference. After initial setup, perform these procedures every time the wheelchair is serviced.

△ CAUTION

As with any vehicle, the wheels/casters and tires should be checked periodically for cracks, flat spots and wear, and should be replaced.

- ❑ Ensure wheelchair rolls straight (no excessive drag or pull to one side).
- ❑ Ensure all hardware is tight.
- ❑ Ensure no bent or protruding metal on clothing guards.
- ❑ Ensure all fasteners on clothing guards are secure.
- ❑ Ensure arms are secure but easy to release and adjustment levers engage properly.
- ❑ Ensure adjustable height arms operate and lock securely.
- ❑ Ensure armrest pad sits flush against arm tube.
- ❑ Ensure seat and/or back upholstery have no rips.
- ❑ Ensure hand grips are not loose.
- ❑ Ensure trigger release cables completely release and handles return when released.
- ❑ Ensure sealed bearings and axle nut tension are correct.
- ❑ Ensure no excessive side movement or binding when rear wheels are lifted and spun.
- ❑ Inspect handrims for signs of rough edges or peeling finish.
- ❑ Ensure wheel/fork assembly has proper tension when caster is spun. Caster should come to a gradual stop.
- ❑ Adjust bearing system if wheel wobbles noticeably or binds to a stop.
- ❑ Ensure all caster/wheel/fork/headtube fasteners are secure.
- ❑ Ensure wheel locks do not interfere with tires when rolling.
- ❑ Ensure wheel lock pivot points are free of wear and looseness.
- ❑ Ensure wheel locks are easy to engage.
- ❑ Inspect tires/casters for flat spots and wear.
- ❑ Check pneumatic tires for proper inflation.

⚠ WARNING

DO NOT use WD-40®, 3-in-1 oil®, or other penetrating lubricants on quick-release axles. Otherwise, binding and/or damage to the wheelchair may occur.

- ❑ Clean quick-release axles with a Teflon® lubricant.
- ❑ Ensure axles are free from dirt, lint, etc.
- ❑ Ensure roller bearings are free from dirt, lint, etc.
- ❑ Adjust wheel locks as tires wear.
- ❑ Clean and wax all parts.
- ❑ Clean upholstery and armrests.
- ❑ Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.

TROUBLESHOOTING

CHAIR VEERS LEFT/RIGHT	SLUGGISH TURN /PERFORMANCE	CASTERS FLUTTER	SQUEAKS AND RATTLES	LOOSENESS IN CHAIR	SOLUTIONS
X	X				If pneumatic tires, check for correct and equal pressure.
	X	X	X	X	Check for loose stem nuts/bolts.
X		X			Check that casters contact ground at the same time.

SECTION 3—MAINTENANCE

MAINTENANCE SAFETY PRECAUTIONS

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

△ CAUTION

DO NOT overtighten hardware attaching to the frame. This could cause damage to the frame tubing.

SUGGESTED MAINTENANCE PROCEDURES

⚠ WARNING

DO NOT use the wheelchair unless it has the proper tire pressure (p.s.i.). DO NOT overinflate the tires. Failure to follow these suggestions may cause the tire to explode and cause bodily harm.

As with any vehicle, the wheels, casters and tires should be checked periodically for cracks and wear, and should be replaced.

1. Keep quick-release axles free of dirt and lint to ensure positive locking and proper operation. Refer to the Owner's Manual, part number 1080556.

⚠ WARNING

DO NOT use WD-40, 3-in-1 Oil, or other penetrating lubricants on quick-release axles. Otherwise, binding and/or damage to the wheelchair may occur.

2. Clean quick-release axles once (1) a week with a Teflon lubricant.
3. Maintain proper tire pressure. If tires are pneumatic, recommended tire pressures will be listed on the side wall of the tires.
4. Periodically adjust wheel locks in correlation to tire wear. Refer to the Owner's Manual, part number 1080556.
5. Make sure that all bolts are tight before operating wheelchair.
6. Keep tilt slides and roller bearings free of dirt and lint to ensure proper operation of the tilt mechanism.
7. Perform safety inspections whenever the wheelchair is brought in for service. Refer to Safety Inspection Checklists on page 17.

SECTION 4—ASSEMBLY

⚠ WARNING

BEFORE performing this procedure, refer to General Guidelines on page 13 for additional requirements.

After ANY adjustments, repair or service and BEFORE use, make sure that all attaching hardware is tightened securely - otherwise injury or damage may result.

ASSEMBLING THE SOLARA WHEELCHAIR

NOTE: Refer to FIGURE 4.1 for this procedure.

1. Unpack the contents of the Solara wheelchair shipping carton.
2. Unfold the back. Refer to Folding/Unfolding Back Assembly in the Owner's Manual, part number 1080556.
3. Install the rear wheels. Refer to Installing/Removing Rear Wheels in the Owner's Manual, part number 1080556.
4. Install the front caster/fork assemblies. Refer to Installing/Removing/Adjusting Caster/Fork on page 44.
5. Install the front riggings or contracture assembly. Refer to Front Riggings or Contracture Footplate Option in the Owner's Manual, part number 1080556.
6. If necessary, install the wheel locks. Refer to Removing/Installing Wheel Locks on page 50.
7. Install the anti-tippers. Refer to Installing/Adjusting Anti-tippers in the Owner's Manual, part number 1080556.
8. If necessary, adjust the back angle. Refer to Adjusting Back Angle on page 40.
9. If necessary, reposition the rear wheels.Refer to Repositioning Axle Plate on page 48.

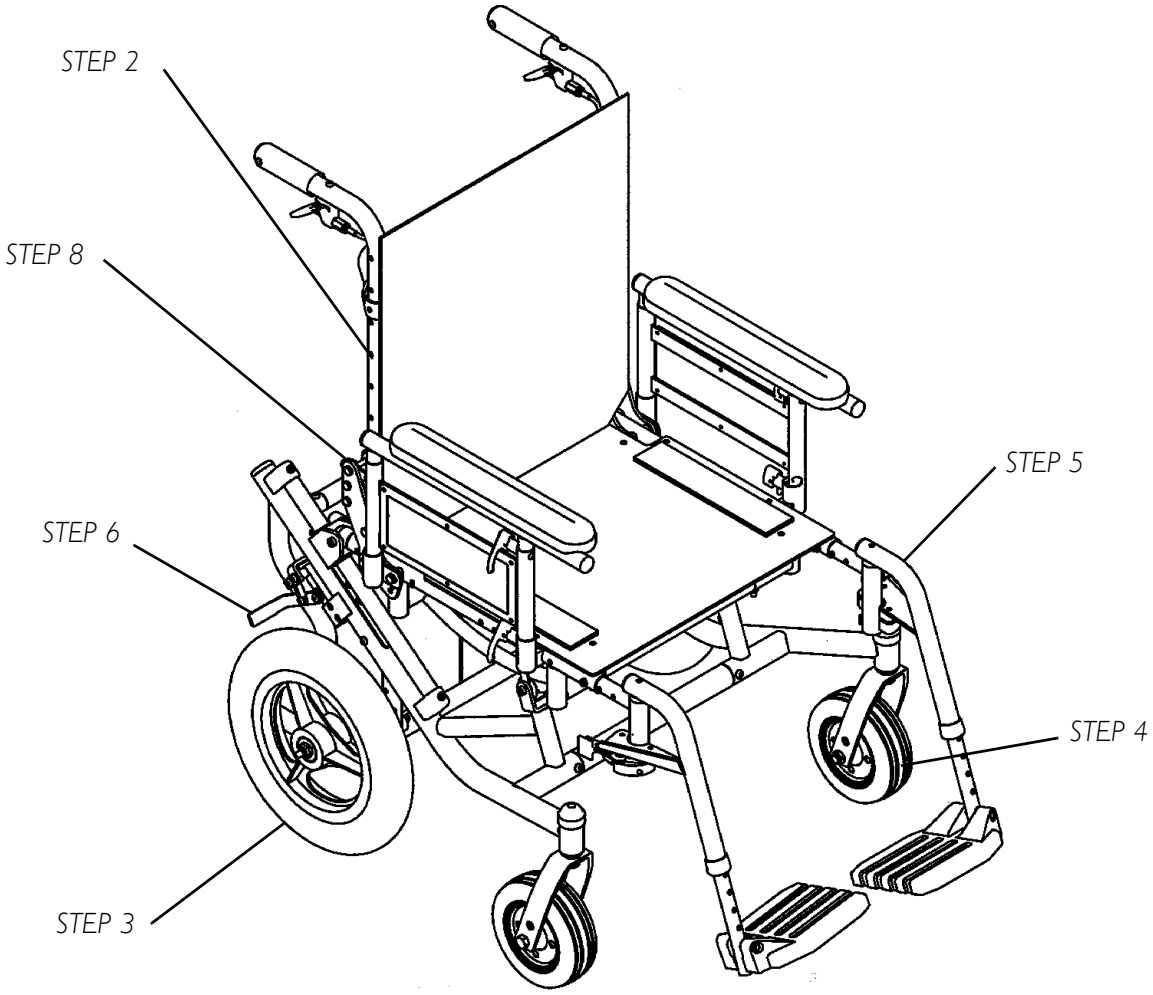


FIGURE 4.1 - ASSEMBLING THE SOLARA WHEELCHAIR

SECTION 5—SEAT

⚠ WARNING

After any adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may occur.

REMOVING/INSTALLING SEAT PAN

FLUSH MOUNT

NOTE: Refer to FIGURE 5.1 for this procedure.

REMOVING

1. Remove the seat cushion from the seat pan.
2. Do one (1) of the following:
   A. Short Frame - Remove the four (4) mounting screws and locknuts that secure existing seat pan and seat pan supports to wheelchair frame.
   B. Medium or Long Frame - Remove the six (6) mounting screws, locknuts and two (2) coved spacers that secure the existing seat pan and seat pan supports to the wheelchair frame.

INSTALLING

1. Install new seat pan and existing seat pan supports onto the wheelchair frame as shown in FIGURE 5.1.
2. Do one (1) of the following:
   A. Short Frame - Secure the seat pan and seat pan supports to the wheelchair frame with the four (4) mounting screws and locknuts.
   B. Medium or Long Frame - Secure the seat pan and seat pan supports to the wheelchair frame with the six (6) mounting screws, locknuts and two (2) coved spacers. Refer to FIGURE 5.1 for proper hardware orientation.
3. Reinstall seat cushion onto seat pan.

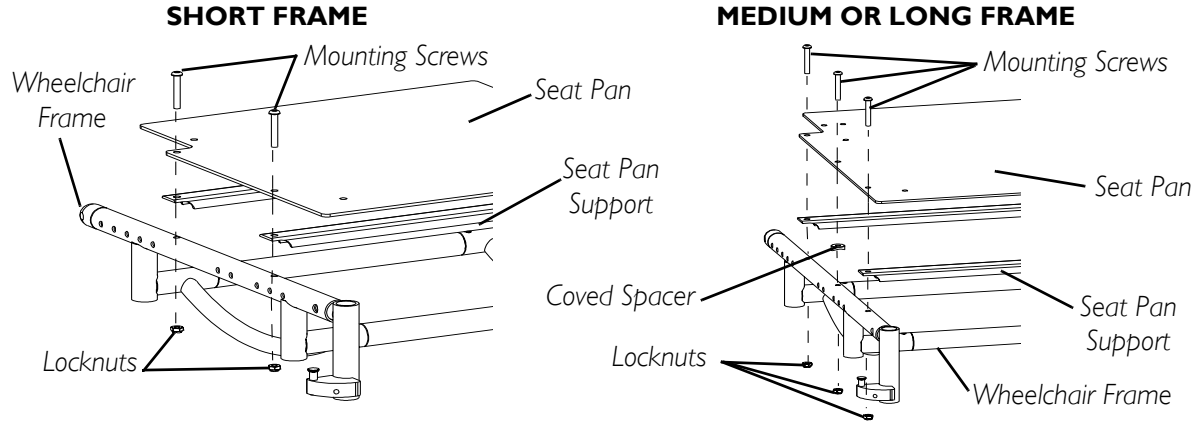


FIGURE 5.1 - FLUSH MOUNT

2 INCH DROP MOUNT

NOTE: Refer to FIGURE 5.2 for this procedure.

1. Remove the seat cushion from the seat pan.
2. Remove the four (4) mounting screws and locknuts that secure existing seat pan to the crossmembers.
3. Do one (1) of the following:
   A. Short Frame - Remove seat pan from wheelchair.
   B. Medium or Long Frame - Remove seat pan with drop hooks from the wheelchair.
4. Do one (1) of the following:
   A. Short Frame - Install new seat pan onto the wheelchair as shown in FIGURE 5.2.
   B. Medium or Long Frame - Install the new seat pan with drop hooks onto the wheelchair as shown in FIGURE 5.2.

⚠ WARNING

After installation and BEFORE use, ensure drop hooks are flush and secured to the side rails - otherwise injury or damage may occur.

5. Secure the new seat pan with the four (4) mounting screws and locknuts to the crossmembers.
6. Reinstall seat cushion onto seat pan.

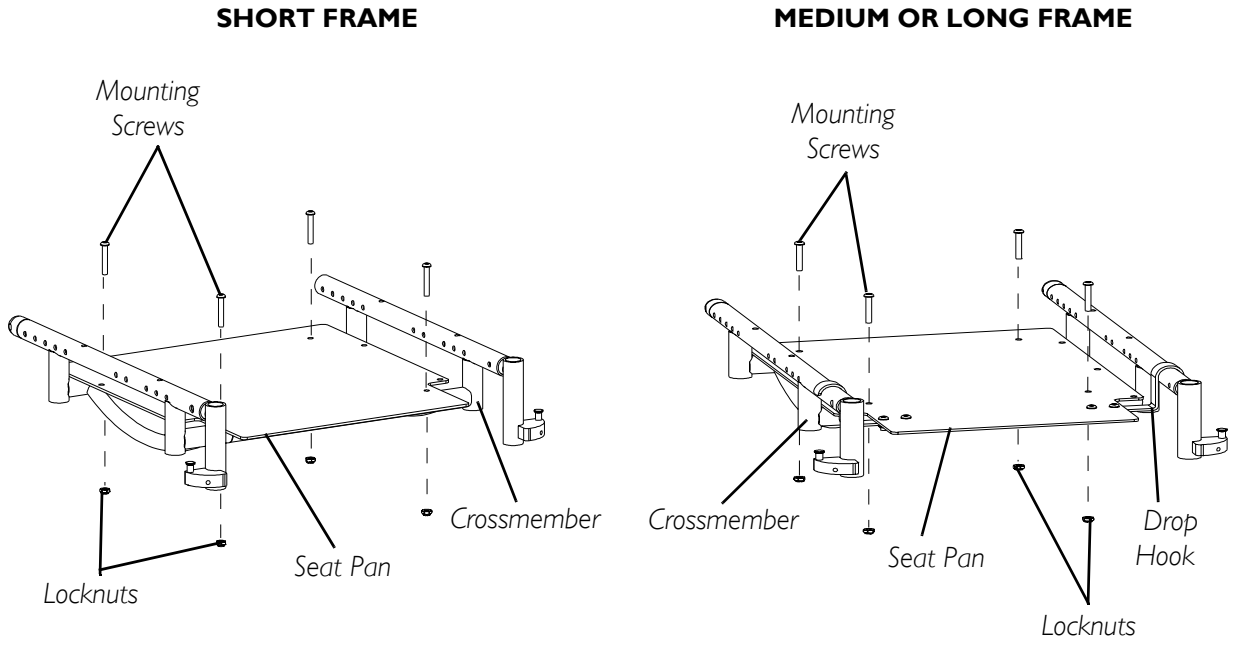


FIGURE 5.2 - 2 INCH DROP MOUNT

REMOVING/INSTALLING SEAT PAN DROP HOOKS - MEDIUM OR LONG FRAME ONLY

NOTE: Refer to FIGURE 5.3 for this procedure.

1. Remove the seat cushion from the seat pan.
2. Remove the four (4) mounting screws that secure the seat pan with drop hooks to the wheelchair frame.
3. Remove the seat pan with drop hooks from the wheelchair frame.
4. Remove the two (2) mounting screws and locknuts that secure the existing drop hook to the seat pan.
5. Remove existing drop hook from the wheelchair.
6. Install new drop hook and secure with existing mounting screws and locknuts.
7. Repeat STEPS 4-6 for opposite side, if necessary.
8. Reinstall the seat cushion onto the seat pan.

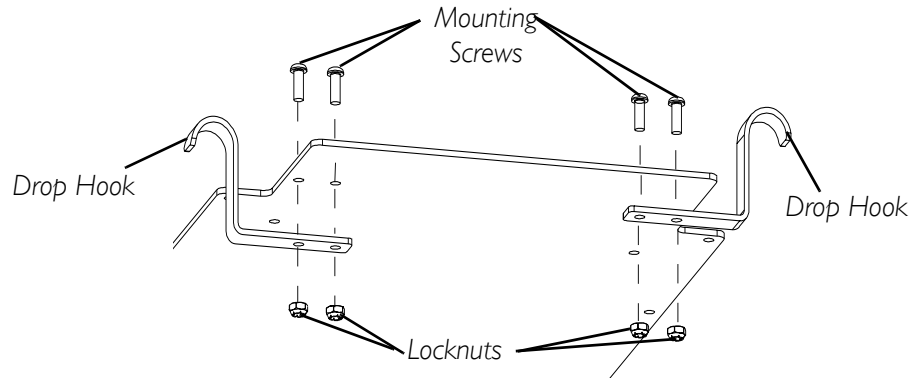


FIGURE 5.3 - REMOVING/INSTALLING SEAT PAN DROP HOOKS - MEDIUM OR LONG FRAME ONLY

ADJUSTING/REMOVING/INSTALLING TELESCOPING FRONT RIGGING SUPPORT

NOTE: Refer to FIGURE 5.4 for this procedure.

⚠ WARNING

BEFORE performing this procedure, refer to General Guidelines on page 13 for additional requirements.

1. Remove the front rigging from the wheelchair. Refer to the Owner's Manual, part number 1080556.
2. Remove the hex screw and locknut that secure the telescoping front rigging support to the wheelchair frame.

NOTE: To adjust the existing telescoping front rigging support, proceed to STEP 4.

NOTE: To remove existing telescoping front rigging from the wheelchair frame, proceed to STEP 3.

3. Install the new telescoping front rigging support into the wheelchair frame.
4. Position the new/existing telescoping front rigging support to one (1) of the three (3) positions.
5. Install existing hex screw through the wheelchair frame and new/existing telescoping front rigging support.
6. Secure the new/existing telescoping front rigging support with the existing locknut.
7. Repeat STEPS 1-7 for opposite side, if necessary.

NOTE: The two (2) telescoping front rigging supports can be positioned at different depths depending on the needs of the user.

8. Install the front rigging onto the wheelchair. Refer to the Owner's Manual, part number 1080556.

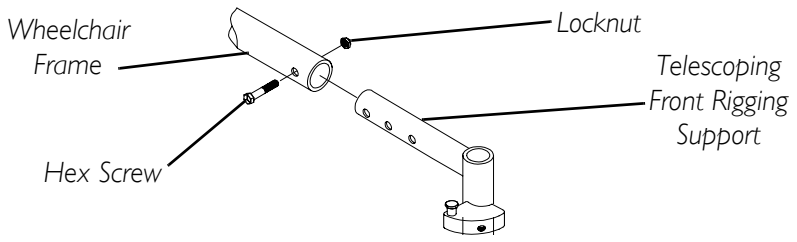


FIGURE 5.4 - ADJUSTING/REMOVING/INSTALLING TELESCOPING FRONT RIGGING SUPPORT

REMOVING/INSTALLING SECTOR BLOCK

NOTE: Refer to FIGURE 5.5 for this procedure.

1. Remove the front rigging from the wheelchair. Refer to the Owner's Manual, part number 1080556.
2. Remove the hex screw and washer that secure the existing sector block to the wheelchair frame.
3. Remove existing sector block from wheelchair.
4. Position the new sector block on the wheelchair frame with the locking pin facing up as shown in FIGURE 5.5
5. Apply Loctite™ to threads of the existing hex screw.
6. Securely tighten the new sector block to the wheelchair frame with the existing hex screw and washer.
7. Install the front rigging onto the wheelchair. Refer to the Owner's Manual, part number 1080556.

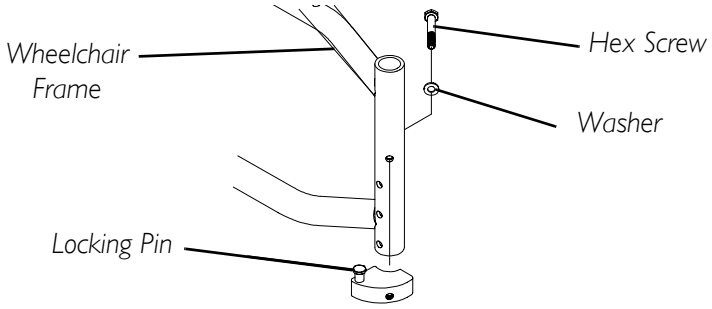


FIGURE 5.5 - REMOVING/INSTALLING SECTOR BLOCK

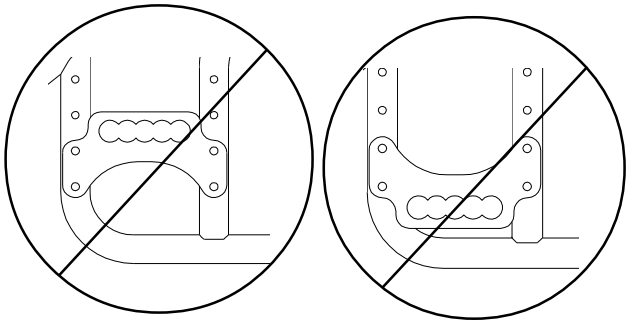
ADJUSTING SEAT-TO-FLOOR HEIGHT

⚠ WARNING

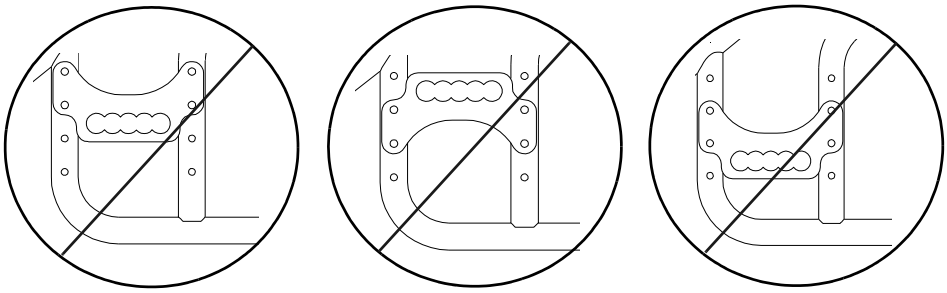
BEFORE performing this procedure, refer to <u>General Guidelines</u> on page 13 for additional requirements.

For 20 and 22 inch rear wheels, there are restrictions for axle plate mounting that will cause the wheelchair to be in an unsafe position. Refer to the following, BEFORE repositioning axle plate.

NEVER USE THESE AXLE MOUNTING POSITIONS FOR 20 or 22-inch wheels

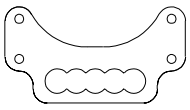


NEVER USE THESE AXLE MOUNTING POSITIONS FOR 22-inch wheels

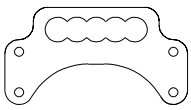


NOTE: The following illustration shows the two (2) mounting positions for the axle mounting plate when determining Seat-to-Floor Height.

Axle Plate Rounded UP



Axle Plate Rounded DOWN



Seat-to-Floor Height is determined by measuring from the seat pan to the ground/floor.

The different Seat-to-Floor heights are possible by using different combinations of rear wheels, caster size, fork assemblies and axle plate position.

NOTE: Refer to the charts on the following pages for the correct settings for the desired Seat-to-Floor Height.

After determining caster size and caster position needed, refer to Installing/Removing/ Adjusting Caster/Fork on page 44.

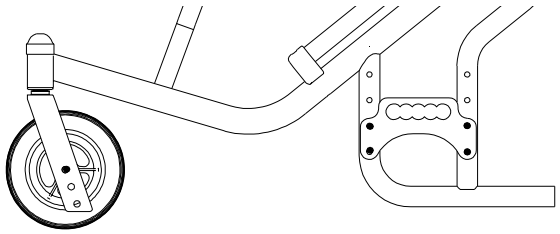
After determining rear wheel size, refer to the Owner's Manual, part number 1080556.

⚠ WARNING

After changing Seat-to-Floor Height, the anti-tippers MUST be adjusted BEFORE using the wheelchair. Refer to Installing/Adjusting Anti-tippers in the Owner's Manual, part number 1080556.

16 INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
6 inch/ Top Hole	6 inch	12 inch	Rounded Down/ Bottom 2 Holes	16 inch *14 inch

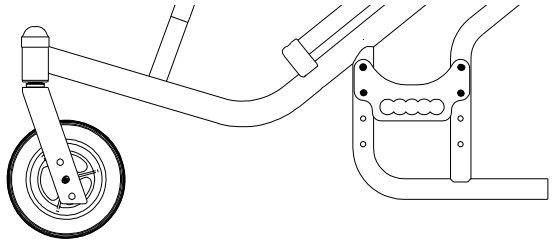


NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.

**NOTE: A 2-inch lower seat-to-floor is obtainable when attaching the seat pan/seating system to the crossmembers instead of the seat rails.*

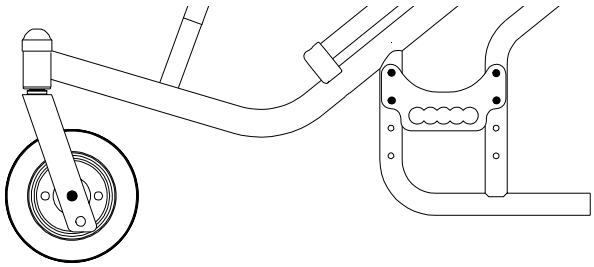
16¾ INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
6 inch/ Middle Hole	6 inch	12 inch	Rounded Down/ Top 2 Holes	16¾ inch *14¾ inch



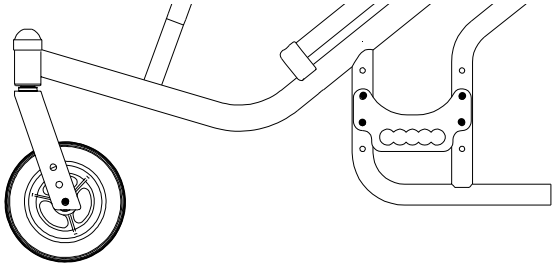
17 INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Upper Hole	6x2 inch	12 inch	Rounded Down/ Top 2 Holes	17 inch *15 inch



17½ INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
6 inch/ Bottom Hole	6 inch	12 inch	Rounded Down/ Middle 2 Holes	17½ inch *15½ inch

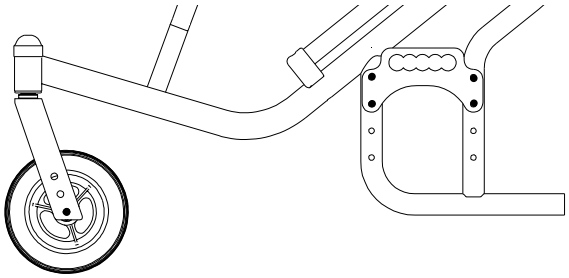


NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.

**NOTE: A 2-inch lower seat-to-floor is obtainable when attaching the seat pan/seating system to the crossmembers instead of the seat rails.*

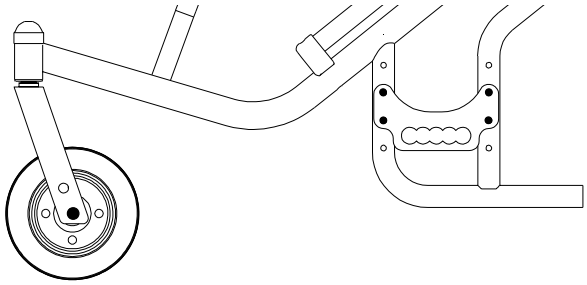
17½ INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
6 inch/ Bottom Hole	6 inch	20 inch	Rounded Down/ Top 2 Holes	17½ inch *15½ inch



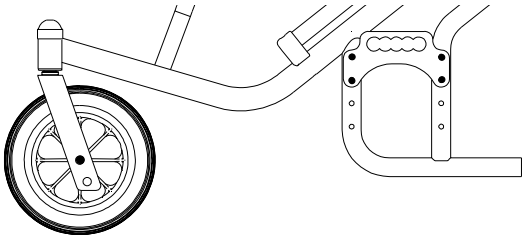
18 INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Top Hole	8 inch	12 inch	Rounded Up/ Middle 2 Holes	18 inch *16 inch



-OR-

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Top Hole	8 inch	20 inch	Rounded Down/ Top 2 Holes	18 inch *16 inch

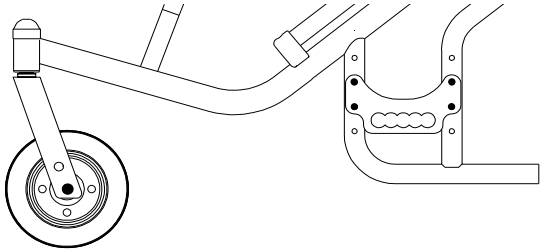


NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.

**NOTE: A 2-inch lower seat-to-floor is obtainable when attaching the seat pan/seating system to the crossmembers instead of the seat rails.*

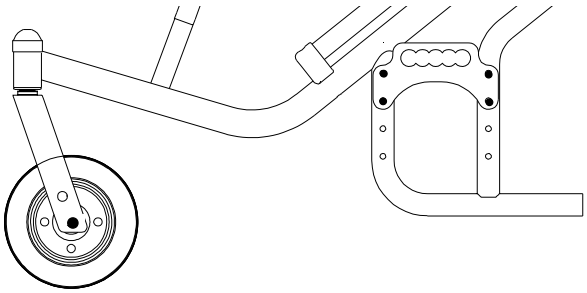
18¼ INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Lower Hole	6x2 inch	12 inch	Rounded Down/ Middle 2 Holes	18¼ inch *16¼ inch



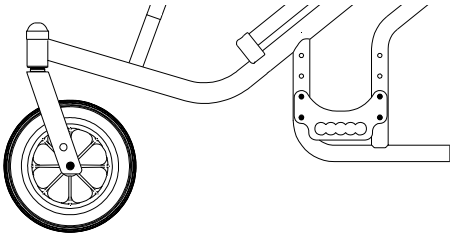
-OR-

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Lower Hole	6x2 inch	20 inch	Rounded Down/ Top 2 Holes	18¼ inch 16¼ inch



19¼ INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Bottom Hole	8 inch	12 inch	Rounded Down/ Bottom 2 Holes	19¼ inch *17¼ inch

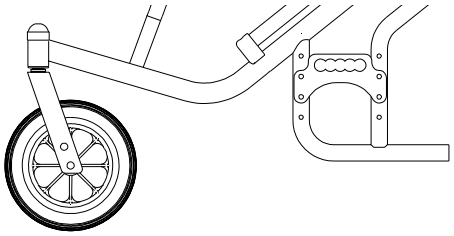


NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.

**NOTE: A 2-inch lower seat-to-floor is obtainable when attaching the seat pan/seating system to the crossmembers instead of the seat rails.*

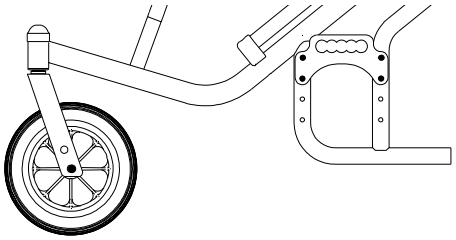
19¼ INCH SEAT-TO-FLOOR

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Bottom Hole	8 inch	20 inch	Rounded Down/ Middle 2 Holes	19¼ inch *17¼ inch



-OR-

FORK	CASTER	REAR WHEEL	AXLE PLATE	SEAT-TO-FLOOR
8 inch/ Bottom Hole	8 inch	22 inch	Rounded Down/ Top 2 Holes	19¼ inch *17¼ inch



NOTE: The seat-to-floor heights are based on pneumatic tires and pneumatic tires with flat free inserts. If wheelchair is equipped with urethane tires, subtract ¼ inch from the measurements listed above. All heights are measured with properly inflated new tires. These heights can vary ± ¼ inch due to tire wear.

**NOTE: A 2-inch lower seat-to-floor is obtainable when attaching the seat pan/seating system to the crossmembers instead of the seat rails.*

SECTION 6—ARMS

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may occur.

REMOVING/INSTALLING DUAL POINT ARM SOCKETS

NOTE: Refer to FIGURE 6.1 for this procedure.

REAR ARM SOCKET

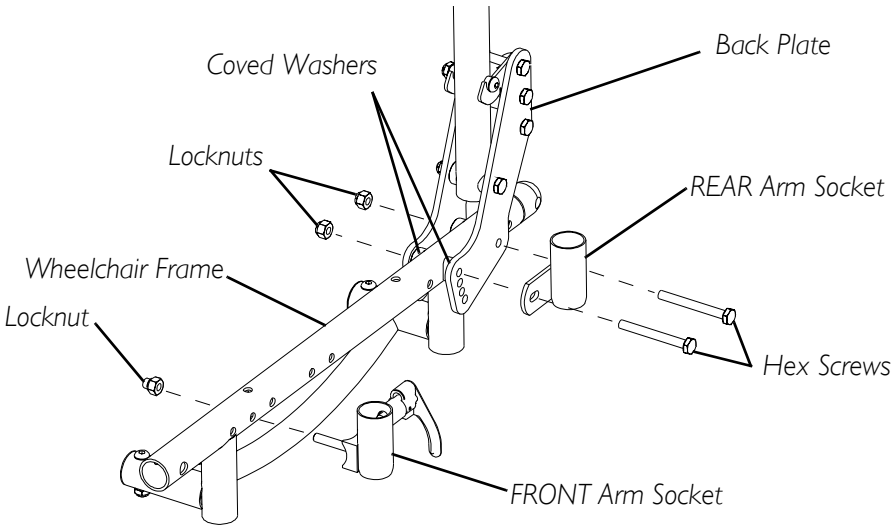
NOTE: Before removing, note position of rear arm socket in back plate for proper reinstallation.

1. Do one (1) of the following:
   A. Seat Pan - Remove the seat pan from the wheelchair. Refer to Removing/Installing Seat Pan on page 22.
   B. Seating System - Remove the seating system from the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.
2. Remove the two (2) hex screws, seat positioning strap (if applicable) and locknut that secure the rear arm socket to the back plate.
3. Remove existing REAR arm socket from the wheelchair.
4. Install the two (2) existing hex screws through the new rear arm socket, seat positioning strap (if applicable) and coved washers. Refer to FIGURE 6.1 for proper hardware orientation.
5. Securely tighten the new rear arm socket to the back plate with the existing locknut.
6. Repeat STEPS 2-5 for opposite side, if necessary.
7. Do one (1) of the following:
   A. Seat Pan - Install the seat pan onto the wheelchair. Refer to Removing/Installing Seat Pan on page 22.
   B. Seating System - Install the seating system onto the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.

FRONT ARM SOCKET

1. Do one (1) of the following:
   A. Seat Pan - Remove the seat pan from the wheelchair. Refer to Removing/Installing Seat Pan on page 22.
   B. Seating System - Remove the seating system from the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.

2. Remove the locknut that secures the front arm socket to the wheelchair frame.
3. Remove existing front arm socket from the wheelchair.
4. Install the new front arm socket into the wheelchair frame.
5. Securely tighten the new front arm socket to the wheelchair frame with the existing locknut.
6. Repeat STEPS 2-5 for opposite side, if necessary.
7. Do one (1) of the following:
   A. Seat Pan - Install the seat pan onto the wheelchair. Refer to Removing/Installing Seat Pan on page 22.
   B. Seating System - Install the seating system onto the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.



NOTE: Seat positioning strap NOT shown for clarity.

FIGURE 6.1 - REMOVING/INSTALLING DUAL POINT ARM SOCKETS

REPLACING/REPOSITIONING CANTILEVER ARM LOCKING LEVER

⚠ CAUTION

The locking mechanism is spring loaded. Place your free hand over the locking mechanism to prevent the parts from springing out of the cantilever arm.

NOTE: Refer to FIGURE 6.2 for this procedure.

1. Flip the cantilever arm up and out of the way.
2. Unscrew the actuator from the locking mechanism.
3. Remove the locking mechanism and spring from the cantilever arm.

NOTE: Inspect the spring for damage and replace if necessary.

4. Slide the new locking mechanism and spring into the cantilever arm.
5. Position the angled portion of the locking mechanism in one (1) of two (2) ways (Detail "A"):
   A. Angled Portion Facing Up - Arm will flip up.
   B. Angled Portion Facing Down - Arm will flip down.
6. Push and hold the locking mechanism into the cantilever arm.
7. Screw the actuator into the locking mechanism mounting hole.
8. Flip the cantilever arm up/down to lock in place.
9. Pull up/down on the cantilever arm to ensure it has locked in place.

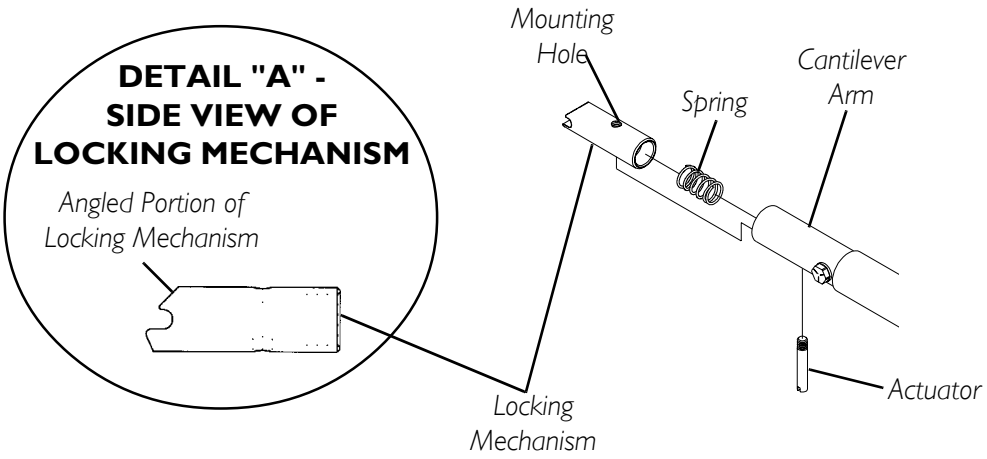


FIGURE 6.2 - REPLACING/REPOSITIONING CANTILEVER ARM LOCKING LEVER

ADJUSTING CANTILEVER ARM ANGLE

NOTE: Refer to FIGURE 6.3 for this procedure.

NOTE: This adjustment is recommended if the back angle has been changed.

1. Flip the cantilever arm up and out of the way.
2. Remove the locknut that secures the locking pin to the arm adjustment plate.
3. Refer to FIGURE 6.3 to determine the mounting hole in the arm adjustment plate that will be used to correspond to the back angle.
4. Securely tighten the locking pin and washer to the adjustment plate with a locknut.
5. Repeat STEPS 1-4 for the opposite side, if necessary.

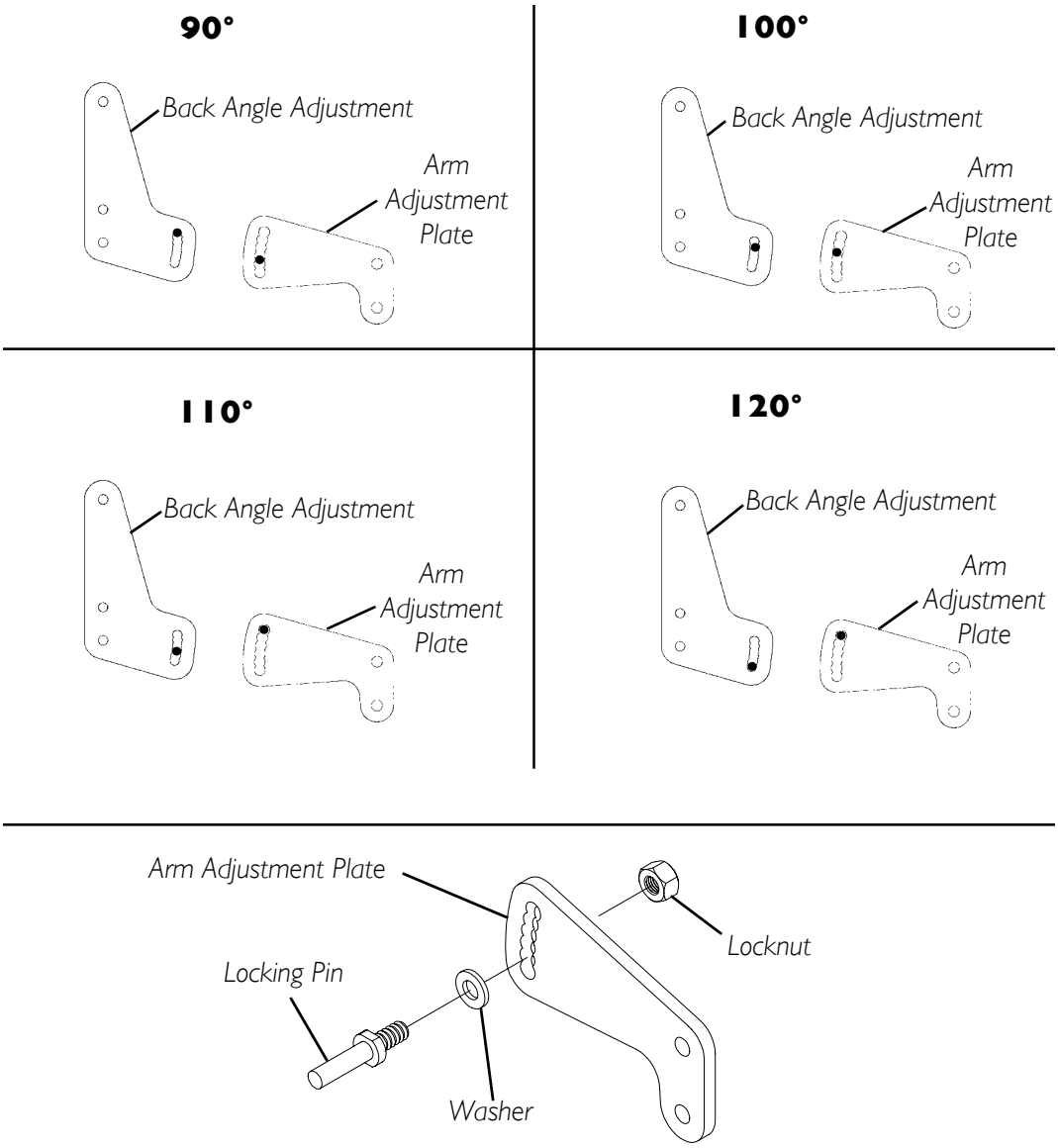


FIGURE 6.3 - ADJUSTING CANTILEVER ARM ANGLE

INSTALLING T-ARM SOCKETS

NOTE: Refer to FIGURE 6.4 for this procedure.

1. Remove rear wheels from wheelchair, if necessary, refer to the Owner's Manual, part number 1080556.
2. Position the T-Arm clamp on the wheelchair frame as shown in FIGURE 6.4.

NOTE: The T-Arm socket must be positioned on the outside of the wheelchair frame.

3. Install hex bolts through T-Arm clamp, wheelchair frame and coved washers and tighten securely with locknuts.
4. Position the T-Arm socket inserts in the T-Arm socket as shown in FIGURE 6.4.

5. Line up the mounting holes in the T-Arm socket with the threaded holes in the T-Arm clamp.
6. While holding the T-Arm socket and the T-Arm clamp together, install the four (4) hex screws and washers into mounting holes and tighten loosely.
7. Adjust the T-Arm socket. Refer to the Owner's Manual, part number 1080556.
8. Repeat STEPS 2-7 for opposite side of wheelchair.
9. Install the T-Arm into the T-Arm sockets. Refer to the Owner's Manual, part number 1080556.

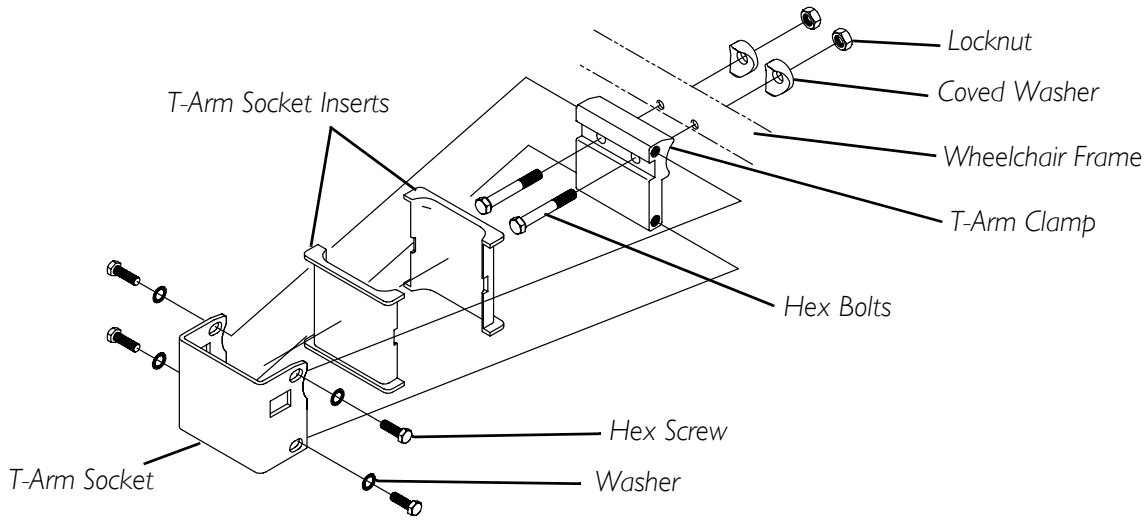


FIGURE 6.4 - INSTALLING T-ARM SOCKETS

REPLACING THE LOCKING LEVER - T-ARMS

NOTE: Refer to FIGURE 6.5 for this procedure.

1. Remove the T-Arm from the wheelchair. Refer to the Owner's Manual, part number 1080556.
2. Remove the mounting bolt and locknut that secure the existing locking lever to the bottom bracket.

△ CAUTION

The locking lever is spring loaded. Place your free hand over the locking lever to prevent the parts from springing off of the bottom bracket.

3. Remove the existing locking lever and spring from the bottom bracket.

NOTE: Inspect the spring and replace if necessary.

4. Position the spring on the bottom bracket as shown in FIGURE 6.5.
5. Position the new locking lever onto the spring and the bottom bracket.

NOTE: Make sure the two (2) extended ends of the spring are inside the notch in the locking lever.

6. Line up the mounting holes in the new locking lever, spring and bottom bracket.

⚠ WARNING

DO NOT over tighten the locknut that secures the locking lever to the bottom bracket. Over tightening this locknut will prevent the locking lever from operating properly, possibly causing injury.

7. Install mounting bolt and tighten securely with locknut.
8. Install the T-Arm onto the wheelchair. Refer to the Owner's Manual, part number 1080556.

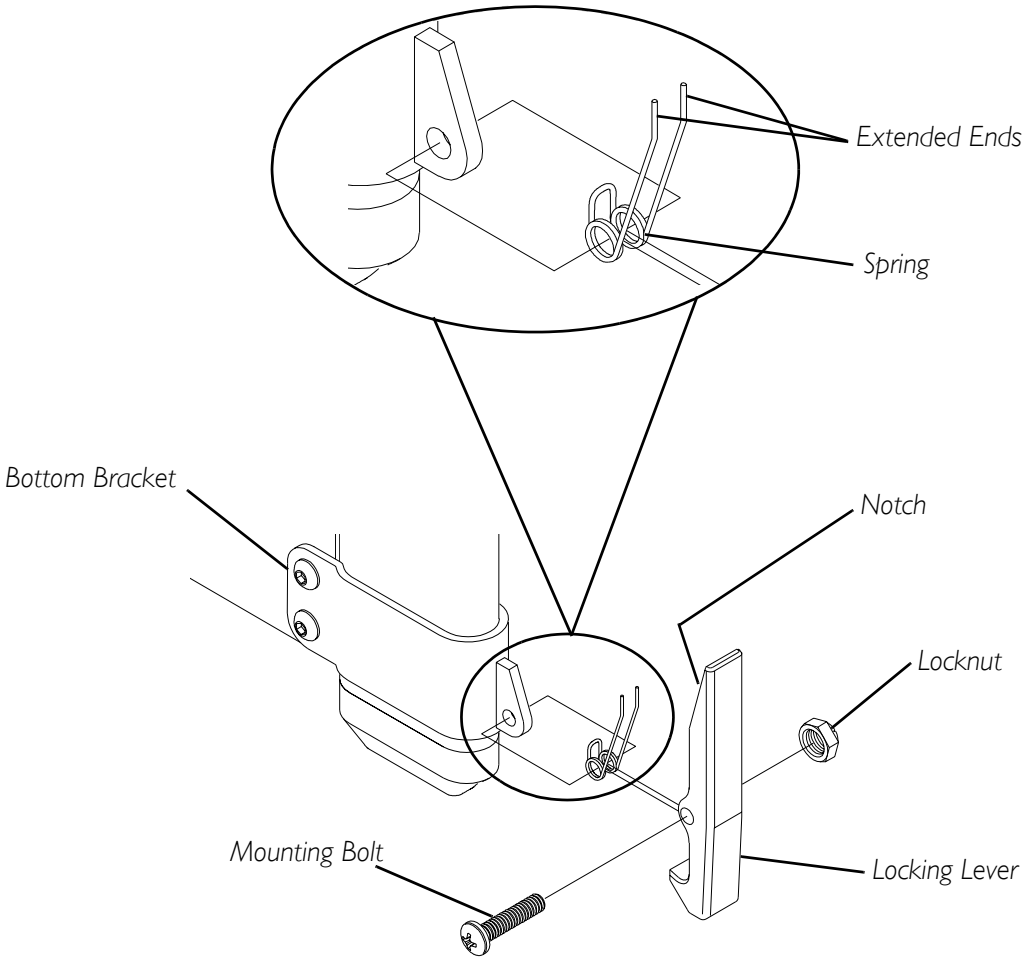


FIGURE 6.5 - REPLACING THE LOCKING LEVER - T-ARMS

SECTION 7—BACK

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

REMOVING/INSTALLING/ADJUSTING BACK RELEASE CORD

NOTE: Refer to FIGURE 7.1 for this procedure.

⚠ WARNING

After adjusting or replacing, ensure back is locked securely in place before using the wheelchair.

REMOVING/INSTALLING BACK RELEASE CORD

1. Remove the back system from the wheelchair, if necessary. Refer to the Back Systems Owner's Manual for removing/installing procedures.
2. Press down on the white nylon lock to release the ends of the back release cord from the cord fastener.
3. Feed one end of the back release cord through the cord fastener.
4. Remove the back release cord from wheelchair.
5. To install the new back release cord, reverse STEPS 2-4.
6. Adjust the back release cord to the desired tightness. Refer to Adjusting Back Release Cord on page 39.
7. Reinstall the back, if necessary. Refer to the Back Systems Owner's Manual for removing/installing procedures.

ADJUSTING BACK RELEASE CORD

NOTE: The back release cord may be adjusted to a tight or loose fit to meet the need of the user.

1. Press down on the nylon lock to release the ends of the back release cord from the cord fastener.
2. Adjust the back release cord to the desired tension.

NOTE: Some slack in the back release cord may be necessary to clear the back upholstery.

3. Press up on the nylon lock to lock the back release cord in place.

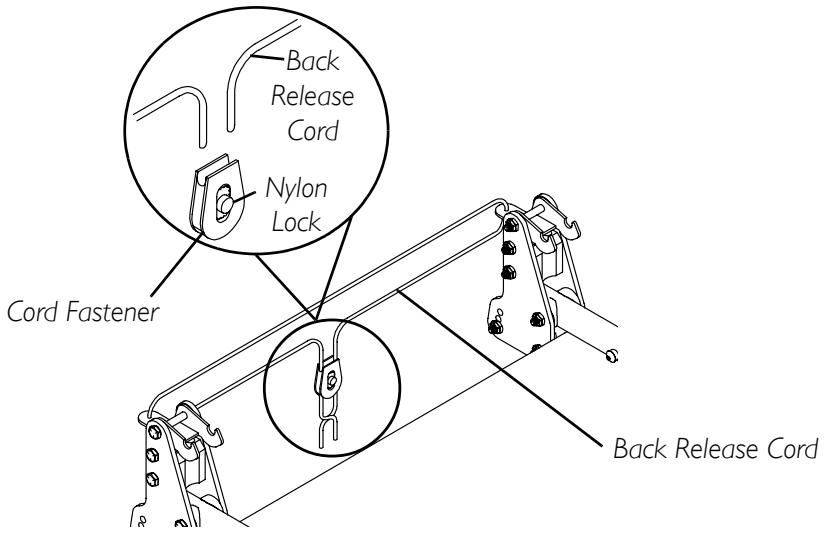


FIGURE 7.1- REMOVING/INSTALLING/ADJUSTING THE BACK RELEASE CORD

ADJUSTING BACK ANGLE

NOTE: Refer to FIGURE 7.2 for this procedure.

⚠ WARNING

BEFORE performing this procedure, refer to General Guidelines on page 13 for additional requirements.

1. Remove the back from the wheelchair, if necessary. Refer to the Back Systems Owner's Manual for removing/installing procedures.
2. Loosen, but do not remove the two (2) rear hex screws that secure both back canes to the back angle plates as shown in FIGURE 7.2.
3. Remove the two (2) front hex screws, arm socket (if applicable), seat positioning strap (if applicable) and locknuts that secure the back angle plate to the seat frame.
4. Align one (1) of the four (4) holes of the back angle plate with the seat frame to obtain the desired back angle.

NOTE: The back angle can be adjusted to 90°, 100°, 110° or 120°. Refer to FIGURE 7.2 to determine desired back angle.

NOTE: BEFORE reinstalling the two (2) front hex screws that secure the back angle plates to the seat frame, make sure coved washers are in line with the mounting holes in the seat frame.

5. Install the two (2) front hex screws through the arm socket (if applicable), seat positioning strap (if applicable), back angle plates, coved washers and seat frames. Refer to FIGURE 7.2 for correct hardware orientation.
6. Securely tighten the two (2) front and the two (2) rear hex screws with the locknuts.
7. Reinstall the back, if necessary. Refer to the Back Systems Owner's Manual for removing/installing procedures.

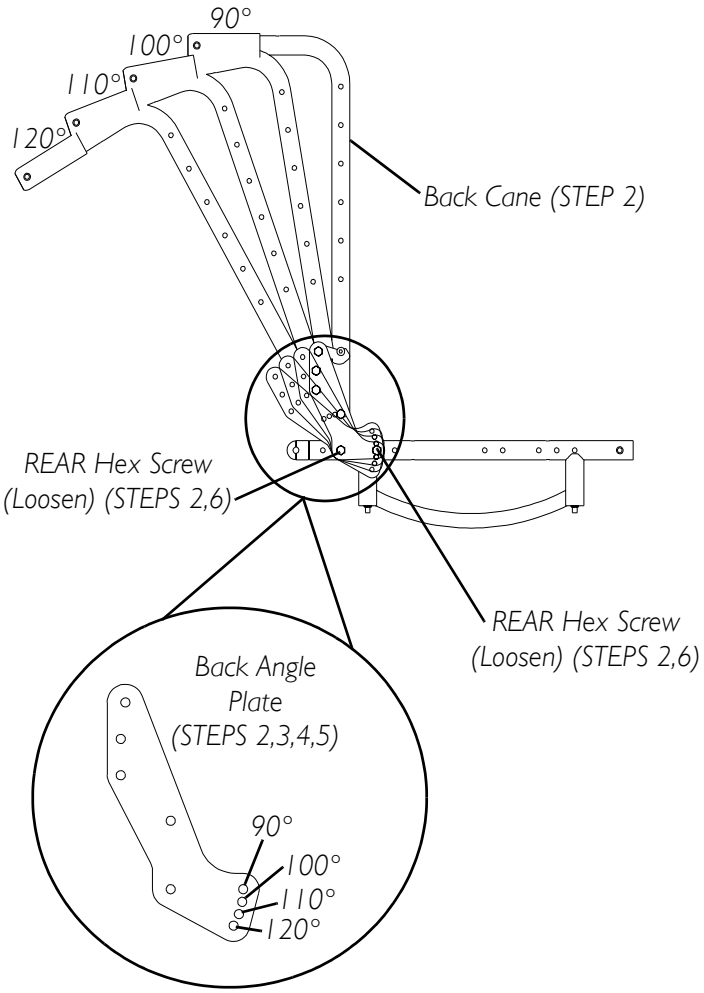


FIGURE 7.2 - BACK ANGLE ADJUSTMENT

REMOVING/INSTALLING THE SPREADER BAR

NOTE: Refer to FIGURE 7.3 for this procedure.

REMOVING

1. Remove the back from the wheelchair. Refer to the Back Systems Owner's Manual for removing/installing procedures.
2. Cut the tie wraps that secure the cables to the back canes.
3. Remove the hex screw, coved washers and locknut that secure the bottom of the back cane to the back angle plate.
4. Repeat STEP 3 for opposite side.
5. Lift up and remove the back canes from the seat latch.
6. Loosen the allen screws that secure the spreader bar to the back canes.

NOTE: Before removing the hardware from the back cane, note the position of the allen screw, spacers and locknut for reinstallation.

7. Remove the allen screw, spacers and locknut from the back canes.

NOTE: The allen screw, spacers and locknut will be reused.

8. Slide the spreader bar down to remove from the back canes.

NOTE: To install a new spreader bar onto back canes refer to Removing/Installing the Spreader Bar on page 41.

NOTE: To replace the back canes, refer to Removing/Installing the Back Canes on page 43.

INSTALLING

1. Slide the new/existing spreader bar onto the new/existing back canes.
2. Install the existing allen screw, spacers and locknut to the back canes as shown in FIGURE 7.3.
3. Position the new/existing back canes with spreader bar over seat latch.
4. Align the coved washers between the back cane and back angle plate as shown in FIGURE 7.3.
5. Secure the back cane to the back angle plate with the locknut.
6. Repeat STEPS 4-5 for opposite side.
7. Position the spreader bar at the desired height.

NOTE: Before tightening the allen screws, ensure the spreader bar does NOT interfere with the back angle plates.

8. Securely tighten the allen screws to secure the spreader bar to the back canes.
9. Secure the cables to the back canes with the tie wraps.
10. Reinstall the back. Refer to the Back Systems Owner's Manual for removing/installing procedures.

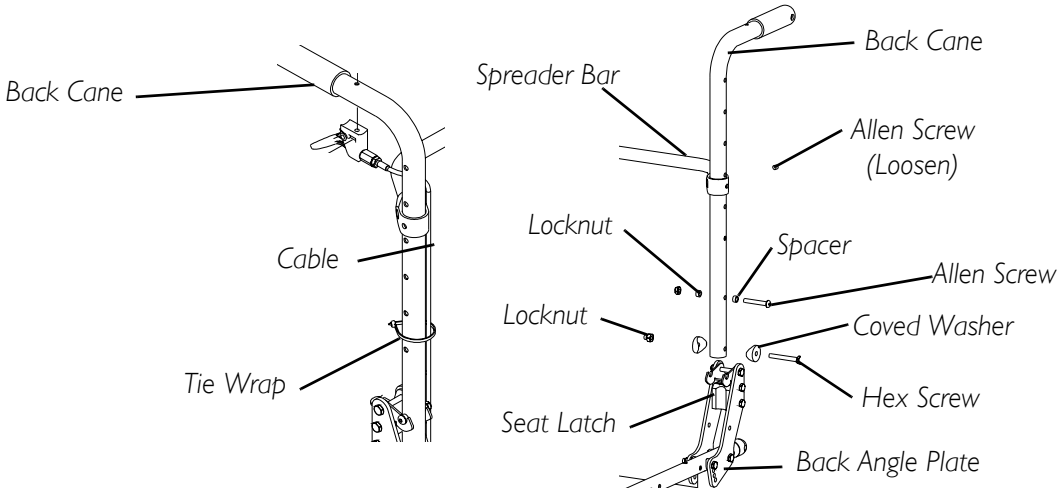


FIGURE 7.3 - REMOVING/INSTALLING THE SPREADER BAR

REMOVING/INSTALLING THE BACK CANES

⚠ WARNING

BEFORE performing this procedure, refer to General Guidelines on page 13 for additional requirements.

NOTE: Refer to FIGURE 7.4 for this procedure.

REMOVING

1. Remove the spreader bar from the wheelchair. Refer to Removing/Installing the Spreader Bar on page 41.
2. Remove the mounting screw and locknut that secures the trigger release lever to the back cane as shown in FIGURE 7.4.
3. Repeat STEP 2 for opposite side, if necessary.
4. Install the new back canes. Refer to Removing/Installing the Back Canes on page 43.

INSTALLING

1. Install existing mounting screw and locknut to secure the trigger release lever to the new back cane.
2. Install the spreader bar onto the wheelchair. Refer to Removing/Installing the Spreader Bar on page 41.

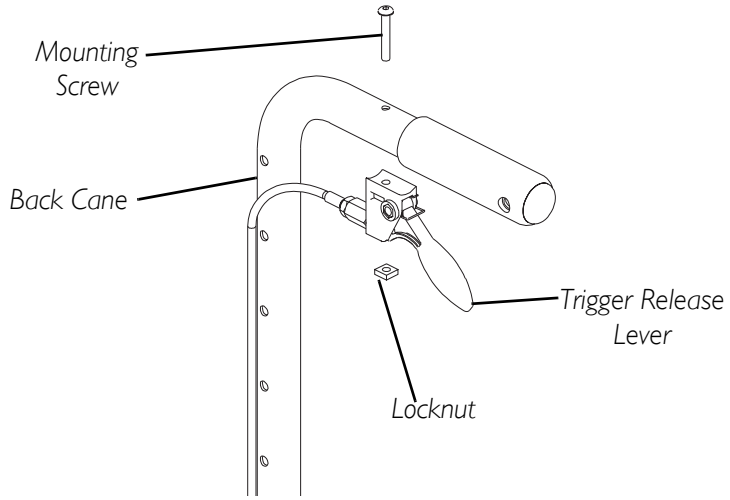


FIGURE 7.4 - REMOVING/INSTALLING THE BACK CANES

SECTION 8—WHEELS

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

INSTALLING/REMOVING/ADJUSTING CASTER/ FORK

NOTE: Refer to FIGURE 8.1 for this procedure.

INSTALLING

1. Remove the front casters from the carton.
2. Unscrew the locknut from the stem of the wheel/fork assembly.
3. Push the fork stem up through the caster head tube.
4. Install plastic washer and secure with locknut.
5. Repeat STEPS 1-4 for opposite side.
6. Adjust the front casters to ensure proper performance. Refer to Adjusting on page 45.

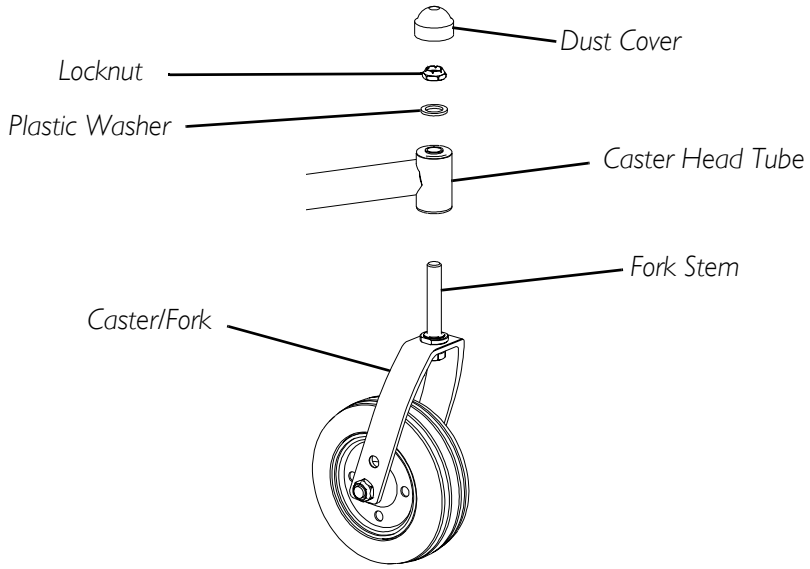


FIGURE 8.1 - INSTALLING/REMOVING/ADJUSTING CASTER/FORK

REMOVING

1. Remove the dust cover.
2. Remove locknut and plastic washer.
3. Drop the front caster/fork assembly out of the caster head tube.

4. Repeat STEPS 1-3 for opposite side, if necessary.
5. Install the new caster/fork. Refer to Installing on page 44.

ADJUSTING

1. To properly tighten caster journal system and guard against flutter, perform the following check:
   A. Tip back of wheelchair to floor.
   B. Pivot both forks and casters to top of their arc simultaneously.
   C. Let casters drop to bottom of arc (wheels should swing once to one-side, then immediately rest in a straight downward position).
   D. Adjust locknuts according to freedom of caster swing.
2. Test wheelchair for maneuverability.
3. Repeat STEPS 1-2 until performance is correct.
4. Snap dust covers over the locknut and stem.

REPLACING/REPAIRING THE TIRE/TUBE

⚠ WARNING

Replacement of front or rear tire or tube MUST be performed by a qualified technician.

⚠ CAUTION

As with any vehicle, the wheels and tires should be checked periodically for cracks and wear, and should be replaced.

REPLACING REAR WHEEL HANDRIM - 20 OR 22 INCH WHEEL ONLY

NOTE: Refer to FIGURE 8.2 for this procedure.

1. Remove the rear wheel from the wheelchair. Refer to Owner's Manual, part number 1080556.
2. Remove the button screws that secure the existing handrim to the rear wheel.
3. Remove the existing handrim and discard.
4. Install the new handrim by reversing STEPS 1-3.

⚠ WARNING

Make sure detent pin and locking pins of the quick-release axles are fully released BEFORE operating the wheelchair.

5. Reinstall rear wheel to the wheelchair. Refer to the Owner's Manual, part number 1080556.
6. Do one (1) of the following:
   A. Permanent Axles - Proceed to STEP 7.
   B. Quick-Release Axles - If the locking pins of the quick-release axles are not protruding past the inside of the rear wheel mounting bracket or there is too much movement of the rear wheel assembly in a back and forth position, refer to the Owner's Manual, part number 1080556.
7. Repeat STEPS 1-6 for the opposite rear wheel, if necessary.

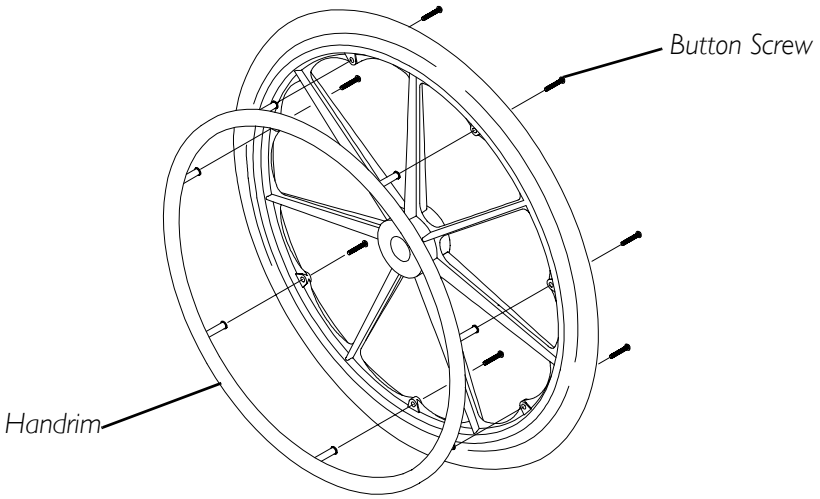


FIGURE 8.2 - REPLACING REAR WHEEL HANDRIM - 20 OR 22 INCH WHEEL ONLY

REPLACING THE AXLE PLATE

⚠ WARNING

BEFORE performing this procedure, Refer to General Guidelines on page 13 for additional requirements.

NOTE: Refer to FIGURE 8.3 for this procedure.

1. Remove the rear wheels from the wheelchair. Refer to the Owner's Manual, part number 1080556.

NOTE: Before removing the axle plate, note position of axle plate to the wheelchair frame for proper reinstallation.

2. Remove the four (4) mounting screws, locknuts, washers and eight (8) coved spacers that secure the axle plate to the wheelchair frame.

NOTE: Before removing axle bushing, count the number of exposed threads of the axle bushing in axle plate for proper reinstallation.

3. Remove the outside jam nut and washer that secure the axle bushing to the axle plate.

4. Remove the axle bushing and existing axle plate.
5. Do one (1) of the following:
   A. Reposition the axle bushing into the new axle plate. Refer to Repositioning Axle Plate on page 48.
   B. Reposition the axle plate on the wheelchair frame. Refer to Replacing the Axle Plate on page 46.
   C. Install the axle bushing into the new axle plate in the position noted in STEP 3.

NOTE: Make sure the number of threads showing beyond the outside jam nut is the same for both rear wheels. This will help avoid a "3-wheeling" situation.

6. Securely tighten the two (2) jam nuts and washers that secure the axle bushing to the axle plate. Torque to 40-45 ft. lbs.
7. Install the four (4) mounting screws, locknuts, washers and eight (8) coved spacers that secure the axle plate to the wheelchair frame. Refer to FIGURE 8.3 for proper hardware orientation.
8. Reinstall the rear wheels to the wheelchair. Refer to the Owner's Manual, part number 1080556.

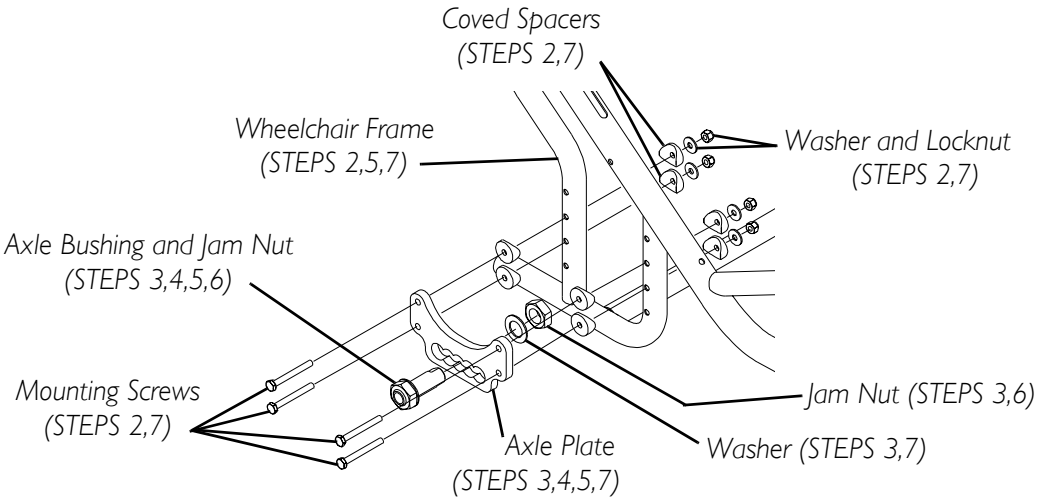


FIGURE 8.3 - REPLACING THE AXLE PLATE

REPOSITIONING AXLE PLATE

NOTE: Refer to FIGURE 8.4 for this procedure.

⚠ WARNING

BEFORE performing this procedure, refer to General Guidelines on page 13 for additional requirements.

1. Refer to Adjusting Seat-to-Floor Height on page 27 for corresponding axle mounting position for desired seat-to-floor height.
2. Remove the rear wheels from the wheelchair. Refer to Owner's Manual, part number 1080556.
3. Remove the four (4) mounting screws, locknuts, washers and eight (8) coved spacers that secure the axle plate to the wheelchair frame.
4. Reposition the axle plate to the desired position.
5. Secure the axle plate to the wheelchair with the four (4) mounting screws, locknuts, washers and eight (8) coved spacers.
6. Repeat STEPS 2-5 for opposite side.
7. Reinstall the rear wheels to the wheelchair. Refer to Owner's Manual, part number 1080556.
8. Adjust the wheel locks. Refer to the Owner's Manual, part number 1080556.
9. Adjust the anti-tippers to maintain proper clearance. Refer to the Owner's Manual, part number 1080556.

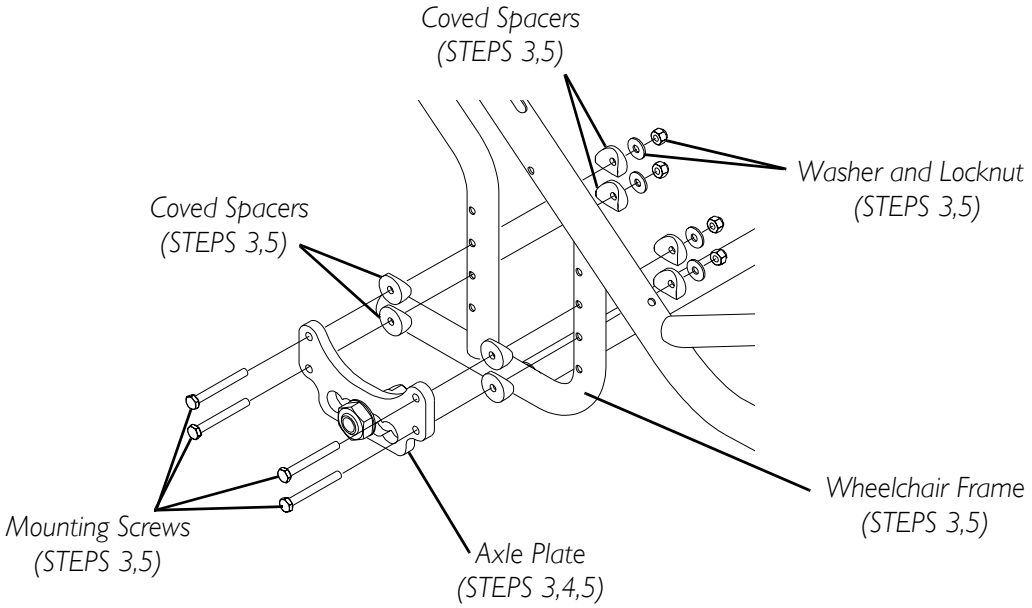


FIGURE 8.4 - REPOSITIONING AXLE PLATE

REPOSITIONING AXLE BUSHING

⚠ WARNING

BEFORE performing this procedure, General Guidelines on page 13 for additional requirements.

Lengthening the Wheelbase will increase stability and maintain standard maneuverability of the wheelchair.

Shortening the Wheelbase will increase maneuverability and distribute additional weight onto the rear wheels.

1. Remove the rear wheel from the wheelchair. Refer to Installing/Removing Rear Wheels in the Owner's Manual, part number 1080556.
2. Loosen the two (2) jam nuts that secure the axle bushing to the axle plate.
3. Move the axle bushing to one (1) of the five (5) positions as shown in FIGURE 8.5.
4. Securely tighten the jam nuts that secure the axle bushing to the axle plate.
5. Reinstall the rear wheel onto the wheelchair. Refer to the Owner's Manual, part number 1080556.
6. Repeat STEPS 1-5 for the opposite side of the wheelchair.

NOTE: Make sure the axle bushings are mounted in the same position. This will help avoid a "3-wheeling" situation.

7. Adjust the wheel locks. Refer to the Owner's Manual, part number 1080556.
8. Adjust the anti-tippers to maintain proper clearance. Refer to the Owner's Manual, part number 1080556.

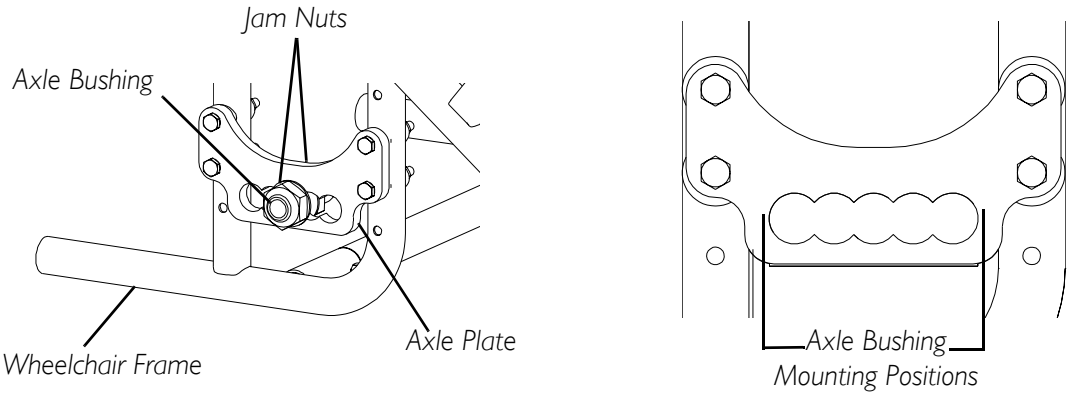


FIGURE 8.5 - REPOSITIONING AXLE BUSHING

REMOVING/INSTALLING WHEEL LOCKS

NOTE: Refer to FIGURE 8.6 for this procedure.

REMOVING

NOTE: BEFORE removing the wheel lock, note position of wheel lock on the wheelchair frame for proper reinstallation.

1. Remove the two (2) socket screws that secure the existing wheel lock to the wheelchair frame.
2. Do one (1) of the following:
   A. 12 inch Wheels - Remove the socket screw and locknut that secures the foot release lever to the wheel lock. Proceed to STEP 3.
   B. 20 or 22 inch Wheels - Proceed to STEP 3.
3. Repeat STEPS 1-2 for opposite side, if necessary.
4. Install the wheel lock(s). Refer to Installing on page 50.

INSTALLING

1. Position the new wheel lock on the wheelchair frame as shown in FIGURE 8.6.
2. Do one of the following:
   A. 12 inch Wheels - Install the socket screw and locknut to secure the foot release lever to the wheel lock. Proceed to STEP 3.
   B. 20 or 22 inch Wheels - Proceed to STEP 3.
3. Install the two (2) socket screws to secure the new wheel lock to the wheelchair frame.
4. Repeat STEPS 1-3 for opposite side, if necessary.
5. Adjust the wheel lock(s). Refer to the Owner's Manual, part number 1080556.

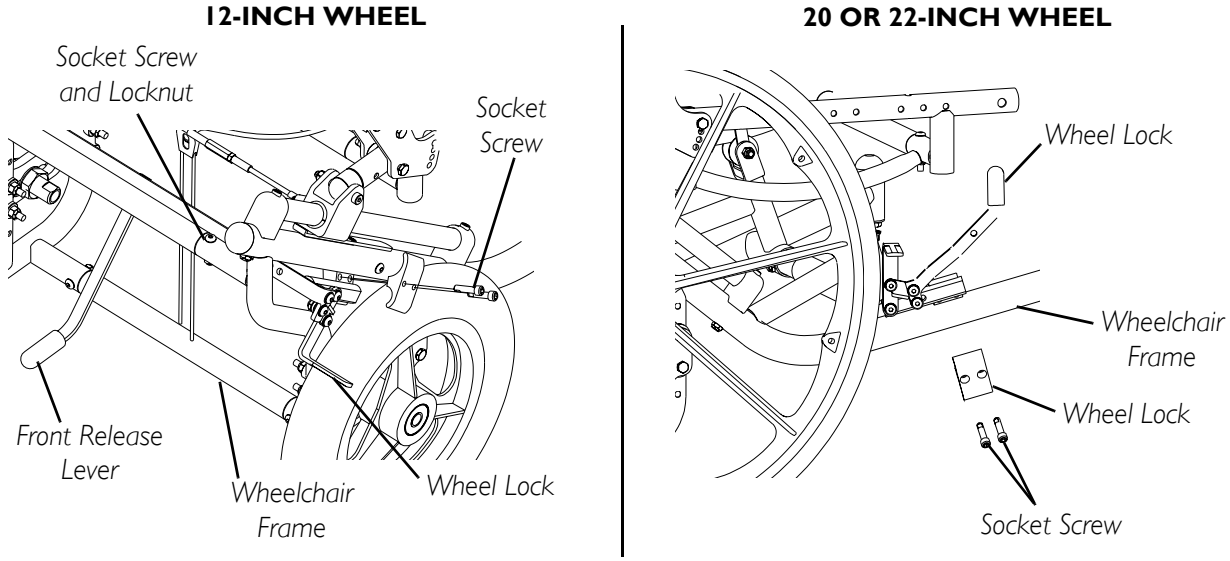


FIGURE 8.6 - REMOVING/INSTALLING WHEEL LOCKS

SECTION 9—TILT-IN-SPACE

⚠ WARNING

After ANY adjustments, repair or service and BEFORE use, make sure all attaching hardware is tightened securely - otherwise injury or damage may result.

REMOVING/INSTALLING TRIGGER RELEASE LEVER WITH CABLE

NOTE: Refer to FIGURE 9.1 for this procedure.

REMOVING TRIGGER RELEASE WITH CABLE

1. Cut tie wrap that secures the cable to the back cane.
2. Remove the mounting screw and locknut that secures the trigger release lever to the back cane as shown in Detail "A".
3. Remove the two (2) allen screws and washers that secure the cable to the bearing housing as shown in Detail "B".
4. Remove existing trigger release lever with cable from the wheelchair.
5. Repeat STEPS 1-4 for opposite side, if necessary.
6. Install the new trigger release lever with cable. Refer to Installing Trigger Release with Cable on page 52.

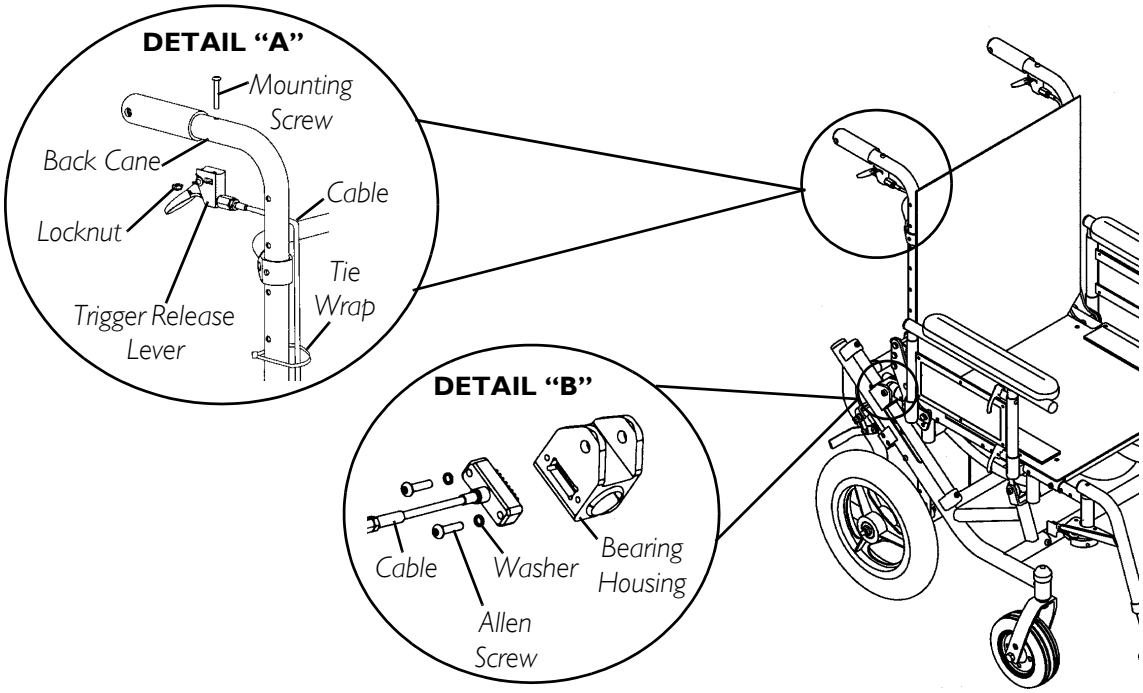


FIGURE 9.1 - REMOVING/INSTALLING TRIGGER RELEASE LEVER WITH CABLE

INSTALLING TRIGGER RELEASE WITH CABLE

1. Secure the new trigger release lever to the back cane with the existing mounting screw and locknut.
2. Secure the cable to the bearing housing with the existing two (2) allen screws and washers.

NOTE: Make sure the cable sits flush against the bearing housing.

3. Secure the cable to the wheelchair frame with tie wrap.
4. Adjust the trigger release cable(s). Refer to Adjusting Trigger Release Cables in the Owner's Manual, part number 1080556.

REMOVING/INSTALLING TILT SLIDE

NOTE: Refer to FIGURE 9.2 for this procedure.

REMOVING TILT SLIDE

1. If necessary, remove the seating system from the wheelchair. Refer to the seating systems Owner's Manual for installing/removing procedures.
2. Remove the shoulder screw and locknut that secure the bearing housing to the seat frame (Detail "A").
3. Remove the two (2) allen screws and locknuts that secure the existing tilt slide to the wheelchair frame (Detail "B").
4. Note the position of the tilt locking collars on the existing tilt slide.
5. Remove the four (4) allen screws that secure the two (2) tilt locking collars to the existing tilt slide.
6. Remove the tilt locking collars from the existing tilt slide.
7. Remove existing tilt slide and bearing housing from the tilt slide housings.
8. Repeat STEPS 2-7 for opposite side, if necessary.
9. Install the new tilt slide onto the wheelchair. Refer to Installing Tilt Slide on page 52.

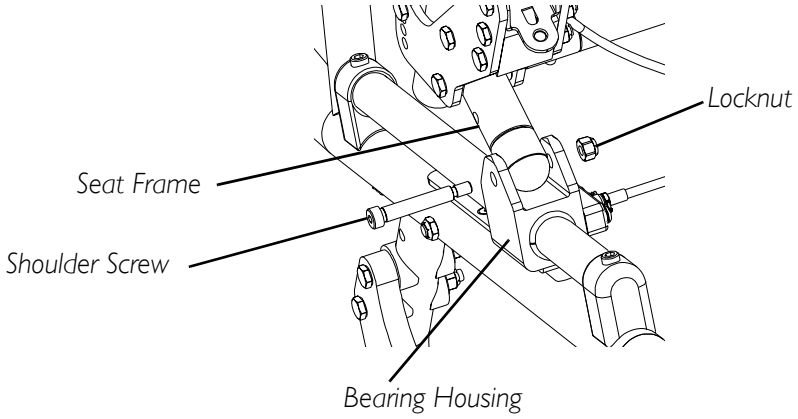
INSTALLING TILT SLIDE

1. Install the new tilt slide and existing bearing housing into the tilt slide housings.
2. Secure tilt slide and tilt slide housings to the wheelchair frame with the two (2) allen screws and locknuts.
3. Secure the bearing housing to the seat frame with the shoulder screw and locknut.
4. Install the tilt locking collars at the position noted in STEP 4 of Removing tilt Slide on page 52.

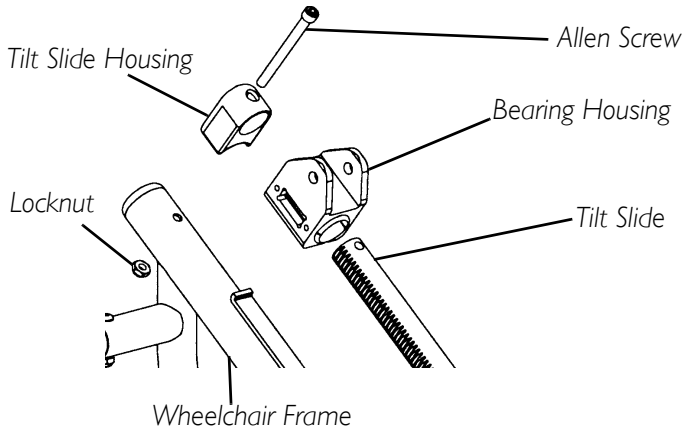
NOTE: To change position of tilt locking collars, refer to Positioning Tilt Locking Collars in the Owner's Manual, part number 1080556.

5. If necessary, install the seating system onto the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.

DETAIL "A"



DETAIL "B"



DETAIL "C"

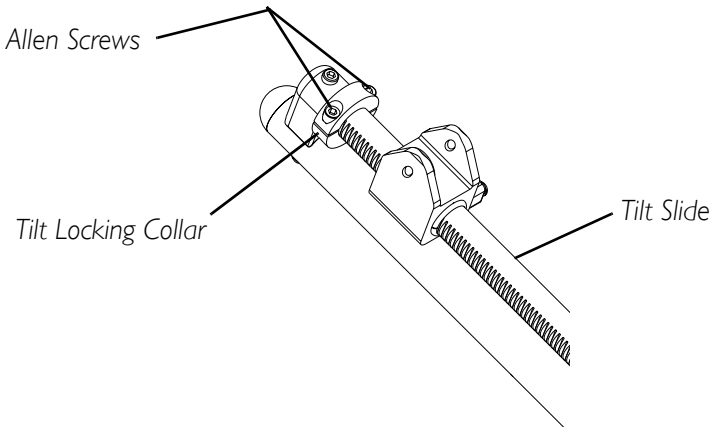


FIGURE 9.2 - REMOVING/INSTALLING TILT SLIDE

REMOVING/INSTALLING BEARING HOUSING

NOTE: Refer to FIGURE 9.3 for this procedure.

REMOVING BEARING HOUSING

1. If necessary, remove the seating system from the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.
2. Remove the two (2) allen screws and washers that secure the trigger release cable to the bearing housing (Detail "A").
3. Remove the shoulder screw and locknut that secure the bearing housing to the seat frame (Detail "B").
4. Remove the two (2) allen screws and locknuts that secure the tilt slide to the wheelchair frame.
5. Note the position of the tilt locking collars on the tilt slide (Detail "C").

NOTE: To change position of tilt locking collars, refer to Positioning Tilt Locking Collars in the Owner's Manual, part number 1080556.

6. Remove the two (2) allen screws that secure the upper tilt locking collar to the tilt slide (Detail "C").

NOTE: It is NOT necessary to remove the lower tilt locking collars for this procedure.

7. Remove the tilt slide from the tilt slide housings.
8. Remove existing bearing housing from the tilt slide.
9. Repeat STEPS 2-8 for opposite side, if necessary.
10. Install the new bearing housing. Refer to Removing/Installing Bearing Housing on page 54.

INSTALLING BEARING HOUSING

1. Install the new bearing housing onto the tilt slide (Detail "A").
2. Install the tilt slide into the tilt slide housings.
3. Secure tilt slide and tilt slide housings to the wheelchair frame with the existing allen screws and locknuts.
4. Secure the new bearing housing to the seat frame with the existing shoulder screw and locknut (Detail "B").
5. Secure the existing upper locking collar to the tilt slide with the two (2) allen screws at the position noted in Removing Bearing Housing on page 54 (Detail "C").
6. Secure the trigger release cable to the bearing housing with the two (2) allen screws.
7. Repeat STEPS 1-6 for opposite side, if necessary.
8. If necessary, install the seating system onto the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.

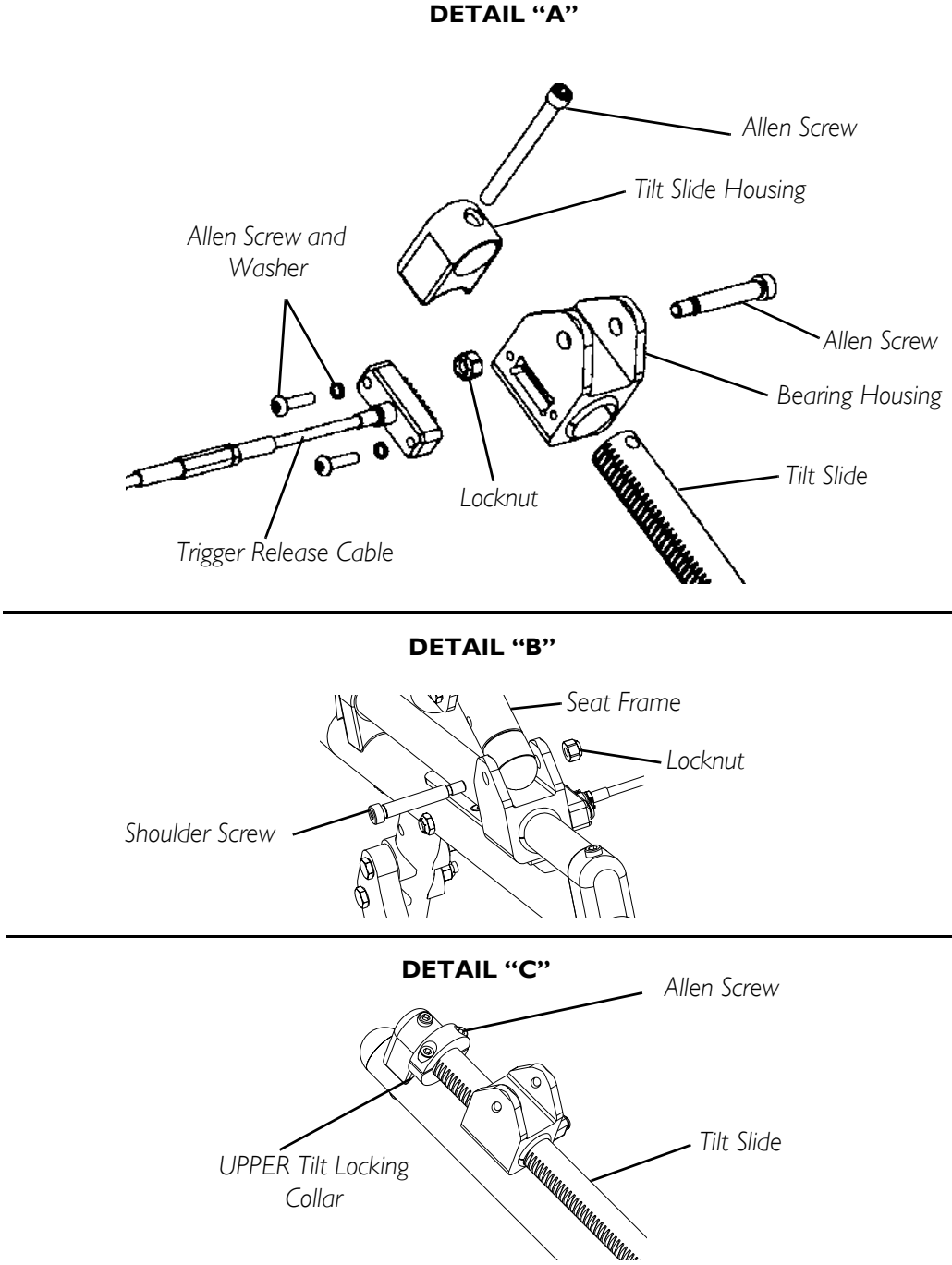


FIGURE 9.3 - REMOVING/INSTALLING BEARING HOUSING

REMOVING AND INSTALLING ROLLER

REMOVING ROLLER

1. Remove the seating system from the wheelchair, if necessary. Refer to the Seating Systems Owner's Manual for installing/removing procedures.

2. Remove the allen screw, spacer and locknut that secure the link bracket to the lower seat frame.
3. Remove the shoulder screw and locknut that secure the existing roller to the wheelchair frame.
4. Remove existing roller from the wheelchair.
5. Repeat STEPS 2-4 for opposite side, if necessary.
6. Install the new roller onto the wheelchair. Refer to Installing Roller on page 56.

INSTALLING ROLLER

1. Position the new roller on the wheelchair frame as shown in FIGURE 9.4.
2. Secure the new roller to the wheelchair frame with the shoulder screw and locknut.
3. Secure the link bracket to the lower wheelchair frame with hex screw, spacer and locknut as shown in FIGURE 9.4.
4. Repeat STEPS 1-3 for opposite side, if necessary.
5. Install the seating system onto the wheelchair. Refer to the Seating Systems Owner's Manual for installing/removing procedures.

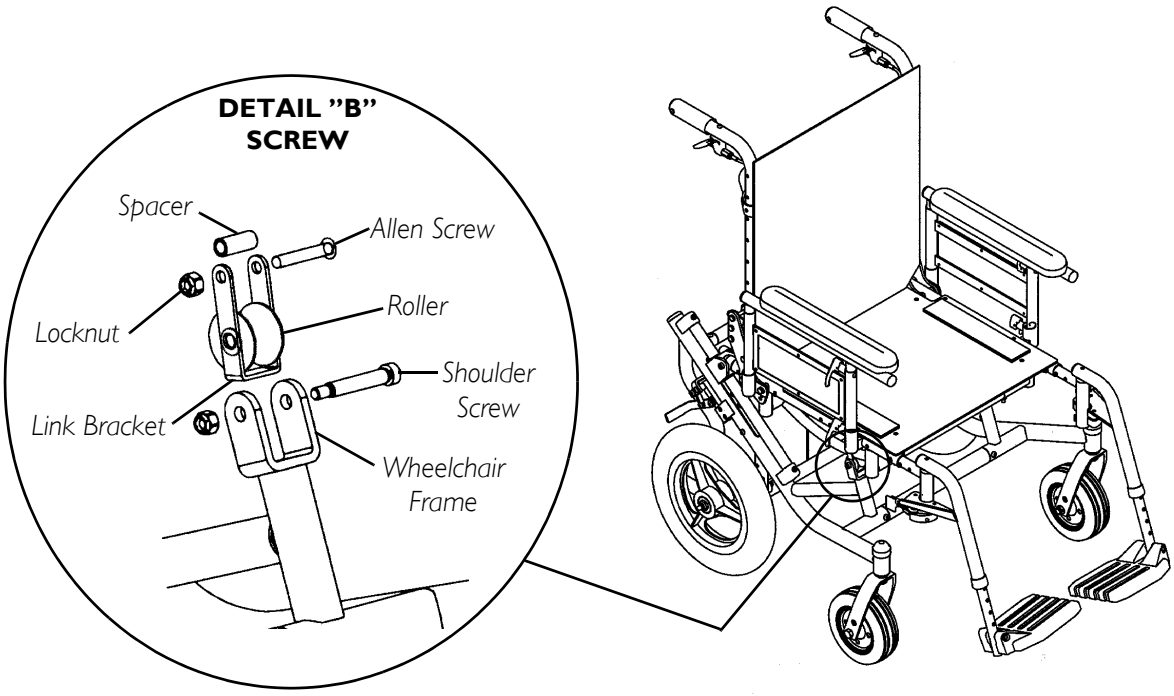


FIGURE 9.4 - REMOVING AND INSTALLING ROLLER

NOTES

NOTES

LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants its product, except for the seat custion (which is not warranted), to be free from defects in materials and workmanship for a period of one (1) year from date of purchase. The side frames and crossmembers are warranted for the lifetime of the original purchaser/ user. If within such warrantly period any such product shall be proven to be defective, such product shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in repacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you do not receive satisfactory warranty service, please write directly to Invacare at the address at the bottom of the back cover. Provide dealer's name, address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

LIMITATIONS AND EXCLUSIONS: THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED, PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE, COMMERCIAL OR INSTITUTIONAL USE, PRODUCTS MODIFIED WITHOUT INVACARE'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO, MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS; PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF INVACARE, OR TO A PRODUCT DAMAGED BY CIRCUMSTANCES BEYOND INVACARE'S CONTROL, AND SUCH EVALUATION WILL BE SOLELY DETERMINED BY INVACARE. THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THESE INSTRUCTIONS.

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Yes, you can.™

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Part No 1085787

Rev E - 06/04